


SECOND EDITION



**THE POLITICAL  
ECONOMY OF**

***M A R X***



**M.C. HOWARD**

**J.E. KING**

# The political economy of Marx

Second edition

**M. C. Howard and J. E. King**



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# Preface

This is an entirely rewritten version of a text substantially completed in 1973 and published in 1975. In it we assess Marx's political economy from a standpoint of critical sympathy. We accept much of Marx's critique of capitalism and his view of economics as a historical, social science, but treat his work as a piece of scientific analysis which is capable of refinement and susceptible to error. We do not seek to prove Marx's infallibility, nor do we wish to apologise for his mistakes. At the same time, we are convinced that in many important respects his political economy is superior to that of orthodox economics.

Our aim is threefold: to outline the structure and content of Marx's economic theory, to place it in relation to his overall social theory, and to assess its coherence and relevance in the light of modern criticism. It must be stressed, however, that this is a book about Marx, and that we have very little to say about those subsequent developments in Marxian economics which are not directly relevant to an evaluation of his own work. To take one example: the great bulk of Marx's analysis is conducted on the assumption that the relationship between capitalists is one of free competition. Recent attempts by Marxists to develop theories of monopoly capitalism, though of considerable interest and practical significance, are tangential to our purpose.

We are not solely or even primarily interested in Marx from the viewpoint of historians of economic thought. Both the problems which he posed and the theoretical solutions that he provided have a modern relevance to issues which remain open questions in orthodox economics. Thus our appraisal of Marx's political economy is undertaken not merely as a historical problem in its own right. We also investigate how modern economic analysis can learn from Marx and how Marxian economics can rival modern orthodoxy as a theoretical paradigm.

The structure of the book is very largely that of the first edition. We move from the philosophical and sociological foundation of Marx's political economy (in Pt. I), through the analysis of his relationship with classical economics (Pt. II), to a consideration of his theories of value and exploitation



(Pt. III) and of reproduction, accumulation and crisis (in Pt. IV). Very substantial changes have been made in the content, reflecting the explosion in the literature on Marxian economics since the early 1970s.

Where frequent reference is made to a work, we have used abbreviations. A key to these abbreviations is to be found in the bibliography.

With hindsight, it is clear that the first edition was insufficiently critical of Marx in some areas (especially the theory of value) and much too dismissive in others (notably in its discussion of the economic contradictions of advanced capitalism). Our conclusion, though, is unaltered. For all the defects in his substantive economic theory, it remains our belief that the central problems facing economics today are those posed by Marx, and that it is only by Marxian methods, broadly defined, that they can be solved. We hope that this book, by exposing both the achievements and the limitations of the political economy of Marx, may contribute a little to this task.

In the first edition we thanked a large number of people for their comments, and especially Ian Bradley, Al Cohan, Maurice Dobb, Martin Hoskins, Leo Katzen, Russell Keat, Ronald Meek, Michio Morishima, Nick Oulton, David Pearce, Francis Seton, Ian Steedman, John Urry and Rod Whittaker. We would like to reaffirm our debts on this score and also extend thanks to Robert Dixon, Harry Dutton, Ramesh Kumar, Fadle Naqib and Steve Rankin who commented upon this second edition. Thanks are also due to Stephanie Brown, Debbie Pallas and Ann Wendt for secretarial assistance.

September 1983

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## Part I

# Theoretical underpinnings of Marx's economics

Marx came to economics from philosophy and always gave to his economic analysis a philosophic significance. In addition, his economic analysis has deep roots in a sophisticated body of social theory. Together these two attributes make Marxian political economy a richer and more comprehensive theory than that produced by any other school of economics. It is these theoretical underpinnings which form the topic of the first four chapters.

Chapter 1 outlines Marx's materialist conception of history which constitutes the heart of Marxian social science. It identifies the mode of production as the central organising element in any social formation, and locates the source of social development in economic change. The philosophical significance which Marx attributes to the historical process as a whole forms the topic of Chapter 2. It is in terms of this that a fuller appreciation of Marx's socialism, his critique of capitalism and his support for proletarian revolution emerges.

The remaining two chapters of Part I examine epistemological and methodological issues connected with Marx's substantive work. Chapter 3 analyses the properties of knowledge as Marx imagined them to be, and considers the procedures he adopted to generate knowledge. The discussion in Chapter 3 concerns Marx's work as a whole and is not limited to his economics. The methodological issues specific to the latter are taken up in Chapter 4, which also provides an introduction to the central concepts of Marx's political economy.

## Chapter 1

# History and modes of production: Marx on social science

### 1.1 Introduction

In the middle 1840s Marx formulated a theory of history which subsequently became the 'guiding principle' of his work. It also became an important influence on the work of other social theorists. In fact, it proved to be a central force behind the rise of the social sciences themselves in the last century and a half. The theory was, indeed, an ambitious one. It proclaimed the principles on which are constituted the relations between different forms of social activity, economic, political and cultural. In addition, it claimed to have located the motive force lying behind social transformations of central importance in world history. It is thus a 'grand theory' and, were it to be accepted as true, it would constitute the foundation upon which other social studies could only be embellishments. The main principles of this theory, as summarised by Marx himself in 1859, are stated in section 1.2. This is followed by expository comments which clarify some of Marx's statements. Both these sections deal with the subject at a high level of abstraction. To compensate for this, section 1.4 considers Marx's own application of these general principles in uncovering the structure and dynamics of capitalism. In the main our treatment is expository, and it is only in section 1.5 that any criticism is made.

### 1.2 The materialist conception of history

Marx began his intellectual life as a philosopher. His doctoral thesis was on the thought of Democritus and Epicurus and the earliest writings of his post-student days were devoted to criticism of Hegel and his 'Young Hegelian' disciples. These philosophical enquiries led him to recognise the importance of economics. His views were moulded by his own political activities and contacts as well as by the influence of the mill-owning socialist Friedrich Engels. Engels' two works of 1844–45, *Outlines of a Critique of Political Economy* (EPM:197–226) and *The Condition of the Working Class in England* summarise in their titles the subjects of Marx's own life's work.

Forced to leave Germany for opposition to Prussian absolutism, Marx had by 1844 extended his critical analysis from Hegelian philosophy to English political economy, in the so-called 'Paris manuscripts' (which were not published until the early 1930s and are referred to here as *EPM*). In the following year there appeared the *German Ideology*, written jointly with Engels, which built upon their previous work and contained the core of what was to become known as the materialist conception of history.

By now Marx was convinced that economics held the key to both understanding and changing the world, to paraphrase the eleventh of the *Theses on Feuerbach* (*SW* I:13–15; written in 1845 but not published until 1888). His first economic lectures, delivered in Brussels in 1847 and printed two years later as *Wage Labour and Capital* (*SW* I:142–74), show that the foundations of his own political economy had already been laid. But his studies were repeatedly interrupted by political agitation, revolution, renewed exile, and finally (in the 1850s, in London) by resort to journalism in order to scrape a living. After the brilliant propagandist tract, the *Communist Manifesto* of 1847–48 (*SW* I:98–137), Marx wrote little but newspaper articles for almost a decade. His only longer works of any significance were the 1850 *Class Struggles in France* (*SW* I:205–99) and the *Eighteenth Brumaire of Louis Bonaparte* of 1851–52 (*SW* I:394–487), which applied his materialist analysis to recent political developments in France.

It was not until 1857, with the onset of another major economic crisis in Western Europe, that Marx returned to formulating his economic theory. He did so with renewed urgency and vigour, and the great bulk of his economic writings derive from the next ten years. First came the *Grundrisse* of 1857–58, a massive 'rough draft' of *Capital* which was almost unknown until its appearance in German in 1953 (and in English only in 1973). The much shorter *Critique of Political Economy* was published in 1859, but was almost completely ignored. *Capital* itself was written in the main between 1861 and 1867, when the first volume came out in German. *Capital* II and III, together with the three books of *Theories of Surplus Value* which were intended by Marx as the fourth volume, were largely completed before *Capital* I but did not appear in print in Marx's lifetime. For the last sixteen years of his life (from 1867 to 1883) he was in failing health, and added relatively little to his political economy.

Methodological issues are raised at various places in these works, but the only systematic discussion is found in the 'Introduction' to the *Grundrisse* (*Grundrisse*:83–111) and the 'Preface' to the *Critique of Political Economy* (*Critique*:19–23). Stark, unqualified, full of problems, the latter contains what is without doubt Marx's best-known summary of his materialist conception of history:

My inquiry led me to the conclusion that neither legal relations nor political forms could be comprehended whether by themselves or on the basis of a so-called general development of the human mind, but that on the contrary they originate in the material conditions of life, the totality of which Hegel, following the example of English and French thinkers of the eighteenth

century, embraces within the term 'civil society'; that the anatomy of this civil society, however, has to be sought in political economy. The study of this, which I began in Paris, I continued in Brussels, where I moved owing to an expulsion order issued by M. Guizot. The general conclusion at which I arrived and which, once reached, became the guiding principle of my studies can be summarised as follows. In the social production of their existence, men inevitably enter into definite relations, which are independent of their will, namely relations of production appropriate to a given stage in the development of their material forces of production. The totality of these relations of production constitutes the economic structure of society, the real foundation, on which arises a legal and political superstructure and to which correspond definite forms of social consciousness. The mode of production of material life conditions the general process of social, political and intellectual life. It is not the consciousness of men that determines their existence, but their social existence that determines their consciousness. At a certain stage of development, the material productive forces of society come into conflict with the existing relations of production or – this merely expresses the same thing in legal terms – with the property relations within the framework of which they have operated hitherto. From forms of development of the productive forces these relations turn into their fetters. Then begins an era of social revolution. The changes in the economic foundation lead sooner or later to the transformation of the whole immense superstructure. In studying such transformations it is always necessary to distinguish between the material transformation of the economic conditions of production, which can be determined with the precision of natural science, and the legal, political, religious, artistic or philosophic – in short, ideological forms in which men become conscious of this conflict and fight it out. Just as one does not judge an individual by what he thinks about himself, so one cannot judge such a period of transformation by its consciousness, but, on the contrary, this consciousness must be explained from the contradictions of material life, from the conflict existing between the social forces of production and the relations of production. No social order is ever destroyed before all the productive forces for which it is sufficient have been developed, and new superior relations of production never replace older ones before the material conditions for their existence have matured within the framework of the old society. Mankind thus inevitably sets itself only such tasks as it is able to solve, since closer examination will always show that the problem itself arises only when the material conditions for its solution are already present or at least in the course of formation. In broad outline, the Asiatic, ancient, feudal and modern bourgeois modes of production may be designated as epochs marking progress in the economic development of society. The bourgeois mode of production is the last antagonistic form of the social process of production – antagonistic not in the sense of individual antagonism but of an antagonism that emanates from the individuals' social conditions of existence – but the productive forces developing within bourgeois society create also the material conditions for a solution of this antagonism. The prehistory of human society accordingly closes with this social formation (*Critique*:20–2).

Marx's theory of history thus asserts the primacy of the 'economic structure' in explaining all other aspects of a society, including the prevailing 'forms of social consciousness'. It is this quality which accounts for its description as *materialist*. In addition, it is the contradiction between the

forces and relations of production which is the real cause of social and political revolutions. The forces of production develop in such a manner that the economic relations in which these developments occur are no longer appropriate. But those who take part in these changes do not see it in this way. Instead they perceive their conflicts in other terms which Marx calls 'ideological'.

These ideas have proved to be both immensely stimulating and endlessly controversial. The remainder of this chapter – to a large extent, the whole of Part I – constitutes a continuous critical commentary on this passage from the *Critique*.

### 1.3 Class and class struggles

The single most important omission in this quotation is the absence of any reference to class and to class struggles, which figure prominently in Marx's other discussions. However, these elements can be easily integrated. Any mode of production involves a division of labour or specialisation of activities. Frequently, although not inevitably, this involves class divisions. A class is made up of those who share a common relation to the productive forces. In slave systems, for example, slaves and slave-owners would constitute two separate classes; the former constitute a means of production which together with other productive forces is wholly owned and directed by the second.\*

A necessary, although not sufficient, condition for the existence of a class system is the development of the productive forces allowing a *surplus product*, that is, output in excess of that required to ensure the reproduction of that level of output. This is so because the principal class relationships are always those in which one or more classes appropriate the surplus produced by the labour of other classes. In other words, the central class relationships are those of *exploitation*. The most blatant example of this occurs under slavery but the principle is universal to class systems, including capitalism. Indeed, Marx sometimes characterises a mode of production by the mechanism through which 'surplus . . . is pumped out of the direct producers' (*Capital* III:791). And the chief theoretical problem of his economics is to specify how exploitation underlies the operation of competitive capitalism even when associated with the full complement of civil liberties. It follows that if technology is so primitive as to preclude anything more than minimal living standards for the producers no surplus is possible, and no class system either.

The 'relations of production' which are referred to in the preceding section can, therefore, be interpreted as class relations which, as Marx says,

\* Note that in this definition, source of income, income levels and other such stratification variables do not enter Marx's definition of class. Their absence is in contrast to that of much empirical sociology and reflects Marx's view that, for the problems with which he was concerned, economic relations were the key to structuring historical action.

take the legal form of property relations. As such, class relations form the 'real foundation' on which arises a 'political superstructure' and to which correspond 'definite forms of social consciousness'. Thus the ownership of property in the means of production is the crucial institution which allows the exploiting classes to gain control of the state. And their dominance is further supported by the ascendancy of their conception of the social system:

The ideas of the ruling class are in every epoch the ruling ideas, i.e. the class which is the ruling material force of society, is at the same time its ruling intellectual force. The class which has the means of material production at its disposal, has control at the same time over the means of mental production, so that thereby, generally speaking, the ideas of those who lack the means of mental production are subject to it. The ruling ideas are nothing more than the ideal expression of the dominant material relationships, the dominant material relationships grasped as ideas (GI:64).

Marx draws attention to this property of ideas by describing them as *ideological*.

His theory of class also encompasses the principle of historical change which governs the transformation of one mode of production into another. As we saw in the previous section, the mechanism of historical change is the contradiction between the forces and relations of production. The forces of production develop in such a way as to become incompatible with the class relations in which they operate. In order that they may attain their potential for further development, class relations must be changed. The dominant class, whose position and power rests on these relations of production, becomes an obstacle to progress and is replaced in a process of conflict by another system of class relations which will allow the further development of social production. The class which achieves dominance on the basis of these relations thus has a particular interest which coincides in this period with the general social interest of increasing material production. However, with the progressive development of the forces of production a new contradiction between the forces and the relations of production manifests itself again in a new class struggle.

The contradictions and resultant class conflicts are in turn manifested consciously as ideological struggles. The conflicting classes do not see their struggles as they really are, but as a clash of principles. They present their own class interests in an ideological framework which asserts them to be 'the only rational, universally valid ones' (GI:66). Thus humans make their own history, but they do so through the mediation of 'false consciousness', that is, through ideologies. In short, those engaged in social production unknowingly create and re-create, through their own activity, social structures in which their activity develops but which also simultaneously conflicts with the potentialities which that activity creates. And in resolving these contradictions they do so via the mediation of illusions about their true historical significance.

We now consider how this materialist theory of history informed Marx's conception of capitalism. This will not only flesh out some of the

more abstract aspects of the general theory, but will also bring into consideration the mode of production which was always at the forefront of Marx's attention.

### 1.4 Capitalism

For Marx capitalism is not simply a mode of production which uses 'capital' in the conventional sense of produced means of production. Nor is it equated with private ownership in these productive forces, with self-seeking economic activities, with mechanised production processes, or with other aspects popularly termed 'capitalist' in common parlance. Instead, capitalism is defined in more precise terms which incorporate those considerations outlined in the preceding two sections. Marx's purpose in so doing was to gain a scientific representation of this social formation in order to understand, and thereby affect, its subsequent development. More specifically, he sought to intensify a class conflict which would engender its revolutionary transformation into socialism.

Stated somewhat schematically, there are four attributes which together define capitalism for Marx: the production of *commodities*, wage-labour, acquisitiveness and rational organisation. By defining capitalism to be a system of *commodity production*, Marx meant that it was a system in which the economic activities undertaken by independent, or 'free', agents are co-ordinated by market exchange (*Capital* I:42, 72–3, 624). Of course, in this sense most types of economy include elements of commodity production. However, while in pre-capitalist economies such commercial activities exist, they are not dominant. They are peripheral, mainly urban activities in largely agricultural economies, and generally involve trading activities rather than production. Their importance in economic life develops only with the decline of economic relations based upon personal dependence, such as serfdom, a decline which is concurrent with the rise of capitalism. But the dominance of markets as the mechanism of economic co-ordination is not in itself sufficient to characterise capitalism. Marx also considers it necessary that human labour power becomes a commodity, and a system of wage-labour exists in which workers can freely sell the use of their time.

He specifies the conditions which must occur for such a system to develop as follows:

In themselves money and commodities are no more capital than are the means of production and of subsistence. They want transforming into capital. But this transformation itself can only take place under certain circumstances that centre in this, viz., that two very different kinds of commodity-possessors must come face to face and into contact; on the one hand, the owners of money, means of production, means of subsistence, who are eager to increase the sum of values they possess, by buying other people's labour-power; on the other hand, free labourers . . . in the double sense that neither they themselves form part and parcel of the means of production, as in the case of slaves, bondsmen, etc., nor do the means of production belong to them, as in the case of peasant-proprietors; they are,



therefore, free from, unencumbered by, any means of production of their own. . . . The process, therefore, that clears the way for the capitalist system, can be none other than the process which takes away from the labourer the possession of his means of production; a process that transforms, on the one hand, the social means of subsistence and of production into capital, on the other, the immediate producers into wage-labourers (*Capital* I:714).

The actual mechanisms of this process in Western Europe (which Marx emphasises) were the forcible expropriation of the agricultural population through enclosures; state legislation which forced the dispossessed into the labour market and out of crime and vagrancy; and conditions which swelled mercantile and usurers' profits, including piracy, colonisation and the slave trade, and led to the accumulation of monetary wealth which could be used to purchase both means of production and labour power. Marx defines this process as primitive accumulation and adds a point, in criticism of contemporary views, which is still of some relevance in assessing modern neo-classical theory:

This primitive accumulation . . . is supposed to be explained when it is told as an anecdote of the past . . . there were two sorts of people; one; the diligent, intelligent, and, above all, frugal elite; the other, lazy rascals, spending their substance, and more, in riotous living. . . . Thus it came to pass that the former sort accumulated wealth, and the latter sort had at last nothing to sell except their own skins. . . . Such insipid childishness is every day preached to us in the defence of property. . . . In actual history it is notorious that conquest, enslavement, robbery, murder, briefly force, play the great part (*Capital* I:713–14).

The third aspect of Marx's conception of capitalism is an acquisitiveness on the part of capitalists, who are motivated by the accumulation of wealth *per se* rather than specific forms of wealth, like land, or objects of consumption. Marx expresses this clearly when he outlines the economic role of the capitalist, for whom

The expansion of value . . . becomes his subjective aim, and it is only in so far as the appropriation of ever more and more wealth in the abstract becomes the sole motive of his operations, that he functions as a capitalist. . . . Use-values must therefore never be looked upon as the real aim of the capitalist (*Capital* I:152; see also *ibid.*:592).

This is not regarded as a 'natural' expression of a universal economic impulse. Such a pattern of action is not assumed of other economic actors in capitalism, let alone of other forms of society. The capitalist's motivation arises in a historical process prior to the domination of capitalist production. Crucially important here, according to Marx's analysis of Western European history, were the developments associated with the growth of the medieval European towns, in particular the movement for municipal autonomy and the creation of a money economy which grew out of the expansion of trade. In this process the towns became emancipated from the stultifying communal ethics and restrictions of the feudal system. The extension of money relationships promoted the rational acquisition of 'wealth in general' by

providing a means by which heterogeneous qualities could be reduced to a common standard, a standard, moreover, which had no effective limits imposed on its acquisition. As capitalist production itself developed, the capitalists' drive to accumulation was intensified through competition. This social relation of capitalist to capitalist 'brings out the inherent laws of capitalist production, in the shape of external coercive laws having power over every individual capitalist' (*Capital* I:270). For example, each capitalist must constantly extend his capital in order to 'build technical progress into his productive organism' (*Capital* II:123; see also *Grundrisse*:414, 517, 522, 650-1 and *Capital* I:592).

Marx assumed, usually implicitly, that capitalists were not simply acquisitive, but were rationally so, seeking to adopt those means best suited to realise their acquisitive goals. This attribute was later analysed much more extensively by Max Weber. In particular he associated it with an intensification in the process of bureaucratisation in which hierarchical organisations extended and routinised the division of labour. This conforms with Marx's own perspective.

Marx's description of capitalist economies should not be confused with their representation in neoclassical theory.\* It is true that the production of commodities, in Marx's sense, is a common element. But the existence of wage-labour plays no definitive role in neoclassical theory. It is not important to recognise that some of the commodities traded are labour services. To do so would add nothing to the basic results developed in this type of economics (although in the formulation of social policies most neoclassical economists would accept that labour should be distinguished from other commodities). As we will see, this runs counter to the structure of Marx's economics in which the nature of the capital-labour relation, as the central class relationship, holds the key to understanding the whole mode of production and the social formation which is based upon it. The neoclassical treatment of motivation is also somewhat different. Self-seeking behaviour is generalised to all types of agent, but this does not imply acquisitive action in Marx's sense. Instead it implies only that agents are selfish and rational. The precise nature of the goals which agents have is not specified.

In Western Europe the bourgeoisie rises to dominance during the course of an extended conflict with established powers, as it seeks to overcome feudal restrictions which hamper free trade and so preclude the more effective utilisation of the available productive forces. The economic contradiction is, however, fought at the ideological level under the banner of 'liberty'. The bourgeoisie thus fights for its class interests in the guise of

\* The term 'neoclassical theory' is here taken to mean the supply and demand analysis which was reformulated in the last third of the nineteenth century by such theorists as Carl Menger, Stanley Jevons and, most notably, Leon Walras. More recent classics in this tradition are Arrow and Hahn (1971), Debreu (1959), Hicks (1946) and Samuelson (1947). These works display considerably more insight and sophistication than the usual textbook versions. Howard (1979) and Walsh (1970) provide an introductory treatment.

universal values. In doing so it may become politically allied with other classes, including the class of wage-labourers. But such an alliance can only be limited in scope and temporary in duration, for dominance of the bourgeois mode of production will bring with it the working out of those 'laws of motion' which are specific to it and are opposed to the interests of the proletariat.

Although the capitalist mode of production is a dynamic one, generating rapid growth, breakthroughs in technical knowledge, and systematic extension of the purview of market relations, it too has its own contradictions which cannot be surmounted by internal reform. There is a growing incompatibility between production, which is increasingly *social*, and appropriation which remains *private*. Production becomes ever more interdependent through the extension of specialisation and market exchange, while prevailing property relations ensure that motivations and benefits remain private. The contradiction is manifested economically in declining profit rates and rising rates of unemployment, which are frequently punctuated and intensified by crises of effective demand failure.

The full working out of this contradiction is a complex business which we do not consider systematically until Part IV. At this stage it can be summarised in terms of two processes: the creation of forms which can only fully flower in socialism, and the development of the proletariat into an increasingly powerful force for socialist revolution. As examples of the first, Marx points to elements of social regulation such as the Factory Acts, the development of corporate economic organisation, the dissolution of repressive family structures and the formation of solidaristic social relations within the proletariat (on these matters see *Capital* I:480, 487 and III:437–8, 489–90, 606–7). Thus 'superior relations of production . . . replace older ones . . . within the framework of the old society' (*Critique*:21). The second process results from the deprivations forced upon the working class by virtue of its position within capitalism, coupled with an increasing similarity of condition which allows recognition of a common class interest realisable only through socialist revolution. The success of this revolution brings to a close the 'prehistory of human society' in the sense that with the passing of capitalism the nature of history itself changes, as we will explain in the following chapter.

The dynamics of capitalism as portrayed by Marx thus provide one example of the theories outlined in sections 1.3 and 1.4. The more general materialist conception of history is subjected to critical re-examination in the next section. The theory of capitalism itself is the subject of further exposition and critical review in Parts III and IV.

## 1.5 Critical comments

Criticism of the materialist conception of history has frequently been erroneous, and some of it has been obviously so. It does not, for example,

maintain the absurd view that the only historical forces are economic or material motives. Nor should the theory be confused with philosophical materialism – the notion that matter is in some sense prior to mind or spirituality. Historical materialism is a doctrine of a different type from that of philosophical materialism and is in no way dependent upon the validity of the latter. Nor does it claim that there must everywhere be the *same* transition between ‘epochs marking progress in the economic development of society’. All these charges have been repeatedly made since the theory’s inception and are without foundation.

The real weaknesses are conceptual. They are pre-eminent in the sense that they must be dealt with prior to any examination of the theory’s empirical truth; ‘testing’ can only properly take place when it is clear what is to be tested. These weaknesses centre upon ambiguity in the two central categories, the *mode of production* and *contradiction*. This is so even if we consider the more extended versions of historical materialism in *The German Ideology* and *The Poverty of Philosophy*.

The mode of production includes both the forces and relations of production.\* Many elements of each are obvious and pose no problems of categorisation. However, this simplicity is not universal. For example, in *Capital* (I:Ch. XV) science is considered to be a productive force, yet it is obviously also a dimension of consciousness and thus superstructural. But how can the same element be classified in both? The superstructure is supposedly determined by the mode and as such must be disjoint from it. This example is symptomatic of a deeper problem for the materialist conception of history. It does not seem possible to conceive of any social relation independently of rules (which may or may not be formalised in law), morality and forms of consciousness. It is, then, not sensible to say that the mode of production ‘determines’ the superstructure. Putting the point slightly differently, if it is to be the case that ‘social existence determines . . . consciousness’, it must be explained how ‘consciousness’ can sensibly be abstracted from ‘social existence’.

It might be objected that this interpretation reads Marx too literally and vulgarly attributes to him absurdities which he would never have entertained. Certainly in analysing specific historical phenomena he departs from such a strict reading of his historical theory, as for example in *The Class Struggles in France* and *The Eighteenth Brumaire of Louis Bonaparte*. But this is not the issue here. The question is whether Marx put forward a

\* The ‘mode of production’ may be defined differently to include only relations of production. However, this alternative treatment does not affect the criticism made here because Marx takes the productive forces as the determinant of the relations of production and thus as distinct from superstructural elements. This is so not only in the *Critique* but also in the *German Ideology* and the *Poverty of Philosophy*. The latter, for example, contains the famous aphorism that ‘The handmill gives you society with the feudal lord; the steam-mill, society with the industrial capitalist’ (PP:109).

coherent historical theory. On the formulations we have so far considered the answer must be negative.

There are, however, other specifications which circumvent the objection we have made above. For example, Marx sometimes writes in a different vein:

I seize this opportunity of shortly answering an objection taken by a German paper in America, to my work, 'Zur Kritik der Pol. Oekonomie, 1859'. In the estimation of that paper, my view that each special mode of production and the social relations corresponding to it, in short, that the economic structure of society, is the real basis on which the juridical and political superstructure is raised, and to which definite social forms of thought correspond; that the mode of production determines the character of the social, political, and intellectual life generally, all this is very true for our own times, in which material interests preponderate, but not for the middle ages, in which Catholicism, nor for Athens and Rome, where politics, reigned supreme. In the first place it strikes one as an odd thing for any one to suppose that these well-worn phrases about the middle ages and the ancient world are unknown to anyone else. This much, however, is clear, that the middle ages could not live on Catholicism, nor the ancient world on politics. On the contrary it is the mode in which they gained a livelihood that explains why here politics, and there Catholicism, played the chief part. For the rest, it requires but a slight acquaintance with the history of the Roman republic, for example, to be aware that its secret history is the history of its landed property. On the other hand, Don Quixote long ago paid the penalty for wrongly imagining that knight errantry was compatible with all economic forms of society (*Capital* I:82).

This suggests that the 'mode of production' can act as a determinant not only overtly but also covertly, by governing the relative weight which each element in the social whole may exercise on the other elements. Nevertheless, this particular reformulation will not suffice. More precisely, it is inadequate as a statement of social science because no criterion is provided by which covert determination could be detected. Consequently, Marx provides no grounds by which the postulated causation could be falsified. This particular reformulation of historical materialism, therefore, lacks that quality which is generally accepted to be definitive of a scientific theory.

Engels sought to overcome criticism in a slightly different fashion. While admitting that 'Marx and I are ourselves partly to blame' for laying 'more stress on the economic side than is due to it', he explained this by the polemical requirements of the time and redefined their position as follows:

... According to the materialist conception of history, the *ultimately* determining element in history is the production and reproduction of real life. More than this neither Marx nor I have ever asserted. Hence if somebody twists this into saying that the economic element is the *only* determining one, he transforms that proposition into a meaningless, abstract, senseless phrase. The economic situation is the basis, but the various elements of the superstructure – political forms of the class struggle and its results, to wit: constitutions established by the victorious class after a successful battle, etc., juridical forms, and even the reflexes of all these actual struggles in the brains of the participants, political, juristic, philosophical theories, religious

views and their further development into systems of dogmas – also exercise their influence upon the course of the historical struggles and in many cases preponderate in determining their *form*. There is an interaction of all these elements in which, amid all the endless host of accidents (that is, of things and events whose inner interconnection is so remote or so impossible of proof that we can regard it as nonexistent, as negligible), the economic movement finally asserts itself as necessary (SW III:487–8).

Parallel formulae such as ‘reciprocal interaction’ between base and superstructure, the ‘relative autonomy’ of the different levels, ‘determination in the last resort’ by the mode of production, and ‘structure in dominance’, have been proposed by successive generations of historical materialists. Whatever other qualities such moderating statements may have, they add nothing to a rigorous presentation of the theory. Indeed, they can only muddy the waters. To maintain that there is ‘reciprocal interaction’ is to maintain nothing sufficiently definite to provoke intelligent disagreement. Such phrases could only become definite if the relative strengths in the interaction, or the bounds of the relative autonomies, were specified in ways which went considerably beyond statements about the ‘last resort’. In short, Engels’s reformulation is of exactly the same non-scientific status as Marx’s.

Is the notion of ‘contradiction’ any better grounded? Notice first that in this context the concept does not refer to a logical incompatibility; it refers instead to conflicting forces which through their opposition transform the whole of which they are parts. It incorporates a real insight in so far as it embodies the recognition that social change can occur from the internal tensions of a society and does not require external forces. On the other hand, Marx’s use of the concept within his general theory of history is problematic in that no criteria of compatibility are specified and thus, by implication, no criteria of tension either. However, such a specification is precisely what is required if the concept is to form part of a historical theory of the type Marx sought to construct. Thus we meet again the recurrent problem of historical materialism, namely, its lack of scientificity.

There are a number of other problems with the materialist conception of history which we will not discuss here (some will, however, arise at a later stage and will be dealt with in Ch. 3). Nevertheless, it is true that the theory has greatly influenced both historical analysis and historiography. Marx’s concepts of mode of production, class, class interests and ideology have been absorbed even by those who have accepted that his own use of them was extremely suspect. Undoubtedly this is part of a wider process in which historical explanation in terms of ‘social forces’ has displaced those in terms of ‘decisions’ and ‘ideas’. And while there is very good reason for believing that this would have occurred in the absence of Marx’s own work, there is also good reason for believing that this work was an important force in the process.

Our concern here is not in tracing out the extent of Marx’s influence. We are instead concerned only with the theoretical underpinnings of Marx’s economics. In this respect we have seen that the ‘guiding principle’

provided by the materialist conception of history was not as robust as Marx imagined. There are, however, other very different guiding threads to Marx's work. Indeed, some writers have argued that these alternative themes are so out of harmony with the topic discussed in this chapter that they define a different Marxism. We consider them in the next chapter.

### Reading guide

The selection from the Preface to *The Critique of Political Economy* in section 1.2 is the most concise and abstract formulation of the materialist conception of history which is available. More elaborate and extensive accounts occur in *The German Ideology* and *The Poverty of Philosophy*. Critical commentaries can be found in Acton (1955), Bober (1948), Giddens (1981), Kolakowski (1978a, 1978b and 1978c), Plamenatz (1963), and Rader (1979). Cohen (1979) provides a defence of Marx's theory by way of an attempt at rigorous reconstruction. Meek (1976a) discusses pre-Marxian ideas of historical materialism. On this see also Skinner (1982).

For a more detailed account of primitive accumulation see *Grundrisse*: 497–515, *Capital* I:Pt. VIII, *Capital* III:Chs XX, XXXVI, XXXVII, XLVII, and Dobb (1946), Hilton (1976) and Hobsbawm (1964a). Marx's account of the nature of capitalism as a historically specific mode of production can be found in Readings 4, 5 and 6 of Howard and King (1976). Max Weber's work on rationalisation and bureaucracy is included in Gerth and Mills (1948).

The influence of Marx's ideas upon historical analysis is discussed by Bottomore (1979), Hobsbawm (1972), Stedman Jones (1972) and Thompson (1978). Important and recent historical works bearing the influence of Marx include Anderson (1974a, 1974b), Barrington Moore (1967), Hobsbawm (1964b, 1975), Thompson (1968), and Wallerstein (1974).

## **Chapter 2**

# **Freedom and the proletariat: Marx on the human condition**

## **2.1 Introduction**

Orthodox economists have a tendency to view Marx's work primarily as a protest against the injustices of capitalism, and especially against the unequal distribution of income with which it has become associated. Such a view is superficial in the extreme. Although Marx was concerned with human misery, his concern operated at a much more fundamental level. From his earliest work he aimed to comprehend the very nature of humanity and, thereby, to analyse dehumanisation in all its forms. Doing this, he believed, also allowed insight into those forces through which a human world, free from all the deficiencies of the past, could be established.

In this chapter we present an exposition of Marx's views on these subjects. The next section considers Marx's theory of human freedom. It is followed, in section 2.3, by the theory of alienation, which contains Marx's most fundamental critique of capitalism. The nature of free, non-alienated, communist society is discussed in section 2.4. All these sections are purely expository, and critical remarks are reserved for section 2.5.

## **2.2 The nature of human freedom**

What is the essence of humanity? According to the views Marx formulated in the early 1840s, it lies in freedom. However, not in freedom as it is conceived by liberals, where it is identified as a condition in which the social limitations placed upon individual action are minimal.\* Marx is sharply critical of such a view of freedom. But he does not propose its opposite (which would be ridiculous). Instead he considers the liberal notion

\* It is recognised by liberal thinkers that such freedom can never be complete and that orderly society requires some constraints upon individual action. Nevertheless, whatever the particular qualifications which are made, liberalism represents freedom as consisting in the ability to follow one's individual interests without interference by others, and in nothing more.



to be a limited one, which needs to be transcended rather than simply negated.

Freedom, for Marx, consists in the ability to engage in consciously planned action directed rationally towards the realisation of definite needs. Of all the animal species, humans alone have this ability or, more accurately, continually develop this ability. Thus human productive activity does not simply seek to use nature, it seeks to master it. Nevertheless, freedom means more than domination over nature; the social conditions of human existence are also involved.

Liberal theorists from the seventeenth century on have written as if individuals approach society with their interests already given, so that society is simply a means and a potential constraint in satisfying purely private goals. (This view is shared by most forms of orthodox economics, which are very much the children of traditional liberal thought.) Marx considers this to be an illusion of the highest order. For him, individuals' interests, abilities and consciousness are social properties. Individual interests can only relate to what is available for satisfying needs; this depends upon the mode of production, which extends beyond the individual. Human abilities can only be the outcome of cultural development, and can never be asocial. Consciousness too is supra-individual, since the ideas which are expressed and the symbols in which they are expressed are shared.

However, Marx does not reify the 'social', which is only the outcome of individual interactions and does not exist over and above the activities of all individuals, no matter how much it dominates each and every separate individual. Consequently freedom, as Marx conceives it, is an attribute which can properly be said to characterise, or not characterise, the social dimension. Freedom is human determination and includes self-determination. On Marx's social conception of the self, the characteristics of the social become the objects of consciously planned action. These two strands, human control of nature and of the social, form the twin components of Marx's view of freedom. Humans are free to the extent that they master their natural and social conditions of existence and consciously fashion both in accordance with their needs.

Once formed, this view posed a problem: how was freedom to be realised? As Marx saw it, the problem was confined to the social dimension. With the advent of capitalism in Western Europe, the crucial breakthrough in the struggle to dominate nature had already occurred. In the *Manifesto of the Communist Party*, written in 1848, he described this in the most glowing terms:

The bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together. Subjection of Nature's forces to man, machinery, application of chemistry to industry and agriculture, steam-navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalisation of rivers, whole populations conjured out of the ground – what earlier century had even a presentiment that such productive forces slumbered in the lap of social labour? (SW I:113).

But Marx detected no parallel development in social control. Indeed, although society is everywhere and always nothing more than the product of human activity, it had not become subject to conscious control. Instead, it took the form of a force operating independently of human agency. This leads us directly into Marx's theory of alienation, where the critique of capitalism is spelt out in a most powerful fashion and in which the agent of liberation emerges in the form of the proletariat.

### 2.3 Alienation

Alienation is a condition in which human creations escape conscious control and instead become forces which govern their creators. Consequently, Marx sometimes refers to alienation as human 'self-estrangement', meaning by this that although people exist in a world of their own making they relate to it only as strangers. The clearest example is furnished by religious institutions. God is a human creation and has no other basis for existence than in the imagination of the devout. Nevertheless, once created, His dictates actually govern the activity of His creators and operate as an alien force independent of them. However, this is only one example of alienation and, moreover, one which Marx did not consider to be of first importance. He maintained that alienation was pervasive in history. And the root of all forms of alienation he considered to be alienated labour caused by the specialisation of activity. The division of labour means that each individual becomes a part in a whole whose functioning assigns the place to each of its parts and governs their operation.

The alien quality of social life is most intense in systems based upon commodity production, and especially in capitalism. Here the division of labour takes extreme forms, and integration is accomplished through impersonal markets which function according to anonymous laws parallel to those in nature. In this sense the social context in which the liberal conception of freedom is most fully realised is simultaneously that conducive to the most acute dehumanisation. Marx resolves this apparent paradox as follows:

When social conditions are considered that generate an undeveloped system of exchange, exchange values and money, or to which an undeveloped stage of such a system corresponds, it is immediately evident that the individuals, although their relationships appear to be more personal, only relate to each other in determined roles, as a feudal lord and his vassal, a landlord and his serf, etc., or as a member of a caste, etc., or of an estate, etc. In money relationships, in the developed exchange system (and it is this semblance that is so seductive in the eyes of democrats), the ties of personal dependence are in fact broken, torn asunder, as also differences of blood, educational differences, etc. (the personal ties all appear at least to be *personal* relationships). Thus the individuals appear to be independent (though this independence is merely a complete illusion and should rather be termed indifference); independent, that is, to collide with one another freely and to barter within the limits of this freedom. They appear so, however, only to someone who abstracts from the conditions of existence in which these individuals come into contact. (Such conditions are again independent of

individuals and appear, although they were created by society, to be the same as *natural conditions*, i.e. uncontrollable by the individual.) The determining factor that appears in the first case to be a personal limitation of one individual by another, seems in the latter to be built up into a material limitation of the individual by circumstances that are independent of him and self-contained. (Since the single individual cannot shed his personal limitations, but can surmount external circumstances and master them, his freedom *appears* to be greater in the second case. Closer investigation of these external circumstances and conditions shows, however, how impossible it is for the individuals forming part of a class, etc., to surmount them *en masse* without abolishing them. The individual may by chance be rid of them; but not the masses that are ruled by them, since their mere existence is an expression of the subordination to which individuals must necessarily submit.) So far from constituting the removal of a 'state of dependence', these external relationships represent its disintegration into a general form; or better: they are the elaboration of the general *basis* of personal states of dependence (*Grundrisse*, McLellan (ed.):83-4).

The specific alienated nature of commodity-producing societies, and especially those organised capitalistically, is reflected in the consciousness of their members. Since any society is nothing more than a matrix of human interactions, social phenomena are not actually independent of human actions. They are in fact nothing more than expressions of the structure of social relationships. However, commodity production in all its forms generates perceptions in which social relations are seen as relations between *things*. Marx's work is replete with examples of such 'enchanted and perverted' visions. One is the widespread view in which 'it becomes a property of money to generate value and yield interest, much as it is an attribute of pear-trees to bear pears' (*Capital* III:827, 392). Marx's point is not to deny that 'money' does generate interest, but to emphasise that it does so as a result of a historically specific social mechanism, not because of any intrinsic property which it has as an asocial 'thing'. The fallacy of the view in question is to convert the 'social . . . character impressed on things in the process of social production into a natural character stemming from the material nature of those things' (*Capital* II:229).

Marx terms this fallacy *commodity fetishism*, a component of a more general category of distortion which he calls *false consciousness* (*Capital* I, Ch. 1, section 4). It pervades not only the views of economic agents but also those of intellectuals who analyse the system of which these agents are functionaries. This includes the classical political economists with their emphasis upon the 'invisible hand' and natural laws, their use of ahistorical and asocial concepts, and their devaluation of collective action to circumvent free trade.

An alienated social existence engulfs all classes in capitalist society. However, it takes various forms in its effects upon these different classes:

The propertied class and the class of the proletariat represent the same human self-alienation. But the former feels comfortable and confirmed in this self-alienation, knowing that this alienation is *its own power* and possessing in it the *semblance* of human existence. The latter feels itself ruined in this alienation and sees in it its impotence and the actuality of an inhuman existence (*Young Marx*:367).

The point that Marx is making here is that in any commodity-producing economy the ownership of commodities as private property represents a social power, the exercise of which can represent the 'semblance of' a 'human existence'. Consequently the proletariat, as the propertyless class, has a truly 'inhuman existence' in its impotence.

Marx makes the same claim in more concrete terms. In particular, he continually points out how the rational acquisitiveness of capitalism makes work (a human activity) subordinate to efficient production (of things). The division of labour is extended so that tasks become ever more routinised, and increasingly specialised functionaries are reduced to appendages of a machine. Work becomes a degrading chore designed to earn a physical subsistence, not an expression of conscious creativity:

The worker, therefore, feels himself at home only during his leisure time, whereas at work he feels homeless. His work is not . . . satisfaction of a need, but only a *means* for satisfying other needs. Its alien character is clearly shown by the fact that as soon as there is no physical or other compulsion it is avoided like the plague . . . [the worker] feels himself to be freely active only in his animal functions – eating, drinking and procreating, or at most also in his dwelling and in personal adornment – while in his human functions he is reduced to an animal. The animal becomes human and the human becomes animal (*Early Writings*:125).

Note that Marx's analysis does not represent a sentimental attachment to the poor, and it is certainly not a complaint about the distribution of income. His critique cannot be circumvented by any reforms, for he traces the problem to the very nature of capitalism itself. The problem is not that markets function badly, it is that markets organise activities; it is not that wages are too low, it is that wage-labour exists; it is not that capitalists are inherently evil, but that there are capitalists. The only path to freedom lies through social revolution, through the abolition of capitalism itself.

But what assurance is there that this will be sufficient to realise human freedom? Might not another social system be established which will be equally deficient by Marx's own standards? He deals with this question in terms of proletarian revolution, considered as an informed act devoid of false conscious illusions. Marx argues that the proletariat's action, ending its own inhuman condition, would simultaneously end *all* inhuman conditions:

From the relation of alienated labour to private property it also follows that the emancipation of society from private property, from servitude, takes the political form of the *emancipation of the workers* . . . because this emancipation includes the emancipation of humanity as a whole. For all human servitude is involved in the relation of the worker to production, and all types of servitude are only modifications or consequences of this relation (*Early Writings*:132–3).

In this sense the proletariat is a 'universal class', a particular class with a universal interest. As such, the proletarian revolution would usher in a truly human history, in which individuals gain conscious control of their whole

conditions of existence. Indeed, the proletarian revolution is seen as the first act of such a history, a history which will ultimately become that of communist society.

## 2.4 Communism

The term 'communism' is today associated with Soviet totalitarianism under Stalin, and Soviet authoritarianism in the post-Stalinist Russian empire. The reasons for this are obvious, but if there is a connection with Marx's conception of communism it is a historical rather than a logical one. Marx's idea of communism is essentially anarchistic and libertarian (which is not to say that his own political practice conformed to these principles). It follows directly from his theory of freedom and alienation in the sense that it is conceived to be a society of 'free individuality', which entails the absence of all alienation (*Grundrisse*:158).

'Free individuality' cannot of course mean the freedom of the individual against society, because Marx does not consider individuals to be distinct from their society. They are social creations; their needs, abilities and consciousness are all attributes acquired in and through a social milieu. Marx does not take this to imply that individuals are perfectly malleable beings, exhibiting no uniqueness or variation, but he does argue that freedom cannot be properly considered (as liberals do) by counterposing individuals to society.

Freedom is a condition of conscious human control, which includes control over society. It is a condition in which human interactions are structured so as to facilitate the subordination of nature to human needs and the creation of individuals as rulers of themselves, capable of self-determination. Such a condition can only make sense if society is communal; if the social can act as a single decision-making entity; if there is established an all-pervasive unity devoid of conflicts. And, indeed, Marx does imagine communism to be a perfectly unified society, without social divisions generating particular interests which are hostile to other particular interests. However, he does *not* see communism as a society involving complete uniformity. He considers individuality to be compatible with social unity and, indeed, that it will flower only in a society without conflicts.

A crucial requirement for communism is material abundance. There are several reasons for this. First of all, it is only when there is such affluence that people will cease to compete and come into conflict over the use of scarce resources. In addition a high degree of development of the means of production is required in order to abolish specialisation, which is also the source of particular interests and social conflict. But the division of labour also needs to be abolished in order to allow individuals to develop their many-sided capabilities. Marx argues that it is only in a society that creates such individuals that conscious collective control is possible. Individuals cannot dominate their social relations until they understand them in relation to their needs, and they cannot understand them unless they universally

participate in them. However, if the universal development of individuals is necessary for control over society, it is equally true that such control is necessary in order to allow people to be individually free. In such a condition an individual ceases to 'reproduce himself in one specificity, but produces his totality. Strives not to remain something he has become, but is in the absolute movement of becoming. . . . [Here there is the] . . . complete working out of the human content' (*Grundrisse*:488). Because such activities go well beyond material production, the development of the productive forces is required to allow all sufficient free time to engage in artistic and scientific activities.

As a genuine community, many of the institutions characteristic of pre-communist society will cease to exist in communism. The clearest examples are the authoritarian and repressive agencies of the modern state: the central bureaucracy, the police, the military and prisons. But to draw attention to these matters is somewhat misleading, for so radical is the difference between communism and 'pre-historical' forms conceived to be that nothing remains unaffected. Communism is a reconstitution of the very nature of human existence. Such a reconstitution does not override individuality, as we have seen. Although Marx does not champion individuality against the social interest, neither does he imagine individuals as subordinate to it. Rather he regards the two as coincident, so that communism ends the division between the social and the realm of individuality. The individual will be a universal product of the social and the social will be no more than the relations of universal individuals. The abolition of alienation is complete, for there is no human power outside of human control.

## 2.5 Problems

Recognition of the importance in Marx of a philosophy of human freedom causes difficulties of two types. There is, first, a problem concerning the internal consistency of Marx's work taken as a whole. How is it possible to reconcile Marx the philosopher with Marx the scientist? Put alternatively, are the themes outlined in Chapter 1 consistent with those considered in the three preceding sections? Some have indeed maintained that they are not reconcilable and, in addition, that Marx himself jettisoned humanistic philosophy for determinist science at an early stage in his career. The *German Ideology*, written in 1845, is usually taken as the watershed. However, this has never been very persuasive. The themes of freedom and alienation, dominant in the work of the young Marx, remain central to the mature works, and in particular to the *Grundrisse* and *Capital* (which were written in the late 1850s and early 1860s respectively). Marx does express himself differently in these later works, and his view of capitalism is much richer. But the definition of the human condition, the concept of freedom and the theory of alienation, which were first formulated in his early works, continue to motivate the later ones, guide his construction of theory and

account for his critical perspective. The second problem concerns the cogency of Marx's libertarianism. Several post-Marxian developments in social theory must lead to questioning the reasonableness of Marx's conception of humanity, casting doubt on the validity of Marx's theory of freedom, alienation and social development.

The first problem is relatively easily resolved, at least so far as its central aspect is concerned. Stated concisely, it stems from the recognition that the domain of alienation is equivalent for Marx to that of the materialist conception of history. Alienated social conditions give rise to objective history, that is, to epochs in which individuals are the functionaries of 'social forces' (productive forces, classes and ideologies). It can therefore be analysed in the manner of natural science. It is true that history as Marx conceives it is nothing but the results of human interactions, but these interactions are not subject to conscious design, and like natural processes give rise to law-governed developments. The very existence of these laws demonstrates that human consciousness is not the governing force of historical development. Free activity is conscious self-determination. In alienated social conditions activity is unfree; the prime movers are human creations which have become independent and developed a life of their own.

Nevertheless, there does remain some ambiguity regarding the philosophical significance of historical development. Does history have a purpose or a meaning, or is it completely akin to a purposeless natural process? In other words, is history the process of mankind's 'search for itself', or is there no such agency at work, only purposeless cause and effect which 'just happen' to lay the foundation for a proper human existence? Marx never explicitly poses this question, nor does he answer it clearly. He certainly held to a notion of historical 'progress', but the very nature of this notion does not allow the resolution of this matter. History is progress in that it is the 'self-creation of man'. From any stage in the development of social production there arises a perception of new needs. This leads to a series of activities designed to realise the possibilities, and through this process there arises a new organisation of social labour (or mode of production). This creates the basis for new needs, which in turn generate a new phase of development, changing the very nature of people, their needs, abilities and consciousness. However, this historical pattern is unknown to historical actors (prior to the proletarian revolution, at least) and it involves the most intense human degradation. Humans create themselves in their own history, but they do not do so knowingly. Moreover, in doing so they create ever more powerful alienating structures. Marx does not regard these as avoidable evils or 'mistakes', but as preconditions for emancipation. Through them are created the material, the social and the intellectual bases from which freedom can be recognised and made possible. Class domination, social conflict, the subordination of human activity to non-human ends involving the utmost misery and deprivation, are not purely negative phenomena. Material, social and intellectual progress emerges precisely through the operation of these anti-human forces.

The second problem is more serious, for it bears upon the feasibility of communism and therefore upon the validity of Marx's critique of capitalism. It can be approached in a number of ways. One is through neoclassical economics. Marx's conception of communism presupposes a state of material abundance. Nevertheless, the term itself is not at all precise, and the import of neoclassical economics is that if abundance is defined in terms of overcoming scarcity it is simply not possible because, no matter how productive industry becomes, there will continue to be non-produced quantities and qualities which will remain scarce in relation to human desires. On this argument there will always remain a basis for competition and conflict, together with a social need for efficiency.

This links with considerations stemming from sociological theories of organisation. Communism must obviously involve the abolition of commodity production and replace it with planning. This will require efficient organisation, at least in the use of human resources or necessary labour time. Here lies a basis, and indeed according to Weber the actual historical basis, for the development of bureaucratic forms of organisation, which involve specialisation, division of labour, alienation, social divisions and sectional interests. But these are precisely the root evils in the human condition which are identified by Marx.

A reinforcement of this anti-libertarian perspective is provided by biological and psychological possibilities to which Marx himself paid no attention whatsoever. He considered humans to be social beings and *only* social beings; though he recognised an element of 'individuality', in the sense of a constellation of qualities specific to each individual, he provided no basis to account for it. People are not considered as biological organisms, and the possibility that this aspect of their existence may preclude 'self-determination' and complete freedom is never entertained. This means that Marx never gave any consideration to the possibility that there are innate and ineradicable instinctual bases to the appropriation of property, to aggression and to conflict, so that social structure and culture must inevitably involve some element of repression. One particularly sophisticated and powerful version of this view was developed by Freud, but it is not the only one.

All these elements can be seized upon and permuted to make Marxism a historical force of exactly the opposite character to that intended by Marx himself. It can be argued that since his conception of 'the good life' rested upon such a flimsy foundation, support for proletarian revolution, material abundance and communist unity leads to authoritarian political forms, extensive bureaucratisation and systematic repression. Such indeed is the argument of Kolakowski, for example, despite his evident sympathy with the original Marxian ideal. Similar, but rather less sympathetic, positions are taken by Berlin and Popper. We return to this question in the final chapter of this book.



### Reading guide

Marx's views on freedom and alienation are contained in the *Economic and Philosophic Manuscripts of 1844* and also in the *Grundrisse*. The latter is an immense rambling work, from which important passages are found in McLellan's selections. The translation of these selections often makes for easier reading than that in the complete edition. In addition the anthologies of Bottomore (*Early Writings*), Easton and Guddat (*Writings of the Young Marx on Philosophy and Society*) and McLellan (*Karl Marx: Selected Writings*) cover the themes of freedom and alienation. McLellan (1980), Ollman (1971) and Singer (1980) are also useful. The actual state of the working class, as perceived by Marx and Engels, is dealt with in Engels's *The Condition of the Working Class in England*, published in 1845, and in *Capital* I: Pts II–IV.

Those who have argued that Marx's work contains a break between a 'young' and a 'mature' Marx include Althusser (1969), Feuer (1969) and Hook (1962). This is denied by Avineri (1968), Kolakowski (1971, 1978a), Mandel (1971), Meszaros (1970) and Rubel (1981: Chs 3–4). These works naturally discuss the larger topic of Marx's intellectual development, as do Echeverria (1978), Elliott (1979), McLellan (1973), Mandel (1971), Oakley (1979) and Rosdolsky (1977).

Post-capitalist society, as envisaged by Marx, is outlined in the *Manuscripts* of 1844, the *German Ideology* and the *Critique of the Gotha Programme*. Dunayevskaya (1982), Elliott (1980), Lenin (1917), Luxemburg (1961) and the anthologies referred to above are also useful. Critical perspectives are provided by Aron (1961), Berlin (1958), Freud (1930), Kolakowski (1978a, 1978b, 1978c), Kolakowski and Hampshire (1973), Popper (1945), Scruton (1980) and Tucker (1961).

# Truth and ideology: Marx on the nature of knowledge

## 3.1 Introduction

Having arrived at a conception of a free society appropriate to the nature of humanity, Marx sought knowledge of the social transformation which would bring it about. This involved the study of those historical forces which had created new civilisations in the past, and led him to analyse the capitalist mode of production with particular thoroughness. Here we consider the properties which Marx believed such knowledge to possess, the procedure by which knowledge might be gained, and the greatest threat to its attainment. This chapter is probably the most difficult in the book. In part the difficulty is due to the ambiguities in Marx's own discussion of epistemology and method. To a very large extent, though, it is inherent in the complexity of the subject-matter itself.

In the interests of clarity, we have departed from the format of the previous chapters, in which exposition and criticism of Marx's ideas were kept strictly separate; here they are more integrated. Section 3.2 begins by considering in what sense, if any, Marx thought his analysis to be scientific. In particular we ask whether he considered his work to comprise objective knowledge, and as such to transcend a class perspective, or whether it represented instead an expression of the proletariat's class consciousness. We conclude that Marx did accept the possibility of objective truth, but also that he regarded knowledge as 'humanised', that is, as affected by the nature of the human condition, which he took to be essentially a social one in which class relations are of predominant importance.

In section 3.3 we discuss Marx's 'vision', or the presuppositions that he held to in his construction of social and economic theory. The central principle of this vision is that social reality is essentially dialectical. This led Marx to focus upon social wholes and the internal conflicts which they contained as the key to correct theorising. He also believed that knowledge involves the uncovering of non-observable mechanisms of causation which account for observable phenomena. Section 3.4 explains this *realist* methodology, and indicates the specific form which Marx adopts.

Section 3.5 is concerned with the historical domain of social theory. It shows that Marx's work involves a reconciliation of determinism and free will, of necessity and human agency. In accordance with his dialectical vision and methodological realism, Marx built a deterministic theory of various historical modes of production, but argued that proletarian revolution signifies a change in the nature of history-making. Post-revolutionary society will be free in the sense that human reason will control the course of events, including the development of the species itself, so that social science is no longer required for the understanding of human affairs. This dramatic conclusion throws further light on Marx's notions of alienation and (unalienated) communism, as well as illustrating the depth of his revolutionary perspective.

In pre-communist society, however, social science has a crucial role to play in the understanding of human affairs. Marx argued that it could be properly constructed only if reality is viewed from the social position of the proletariat. All other perspectives involve ideological distortions. In section 3.6 we consider this threat to the acquisition of knowledge.

### 3.2 Science

Marx frequently referred to the knowledge which he produced as scientific and there appear to be two characteristics which he thought this knowledge possessed. First, it incorporated the properties of a humanised world rather than a world unmediated by a human dimension. Second, it pertained to causal structures that went beyond empirically observable regularities. In this section we discuss the first characteristic; we deal with the second in section 3.4.

Science is often treated as if its results correspond to, closely approximate, or even accurately mirror, a reality which exists independently of scientific activity and apart from all human attributes. Furthermore, it is believed that 'facts' immediately present themselves to us via the senses, i.e. they are passively received and involve no active conceptual construction on the part of scientists. Consequently, 'facts' are assigned an absolute priority, and 'theory' is formulated, after the collection of data, in the form of statements of regularity between 'facts'. Marx himself, however, does not share such a view. Instead, his analysis of human cognition implies that the reality which people perceive and understand as fact has a quality that is 'man-made' and in this respect cannot readily be distinguished from the theories which they construct.

Cognition is not a passive faculty of detached consciousness which only accepts and processes reflections of an independently existing reality; it is essentially active and practically oriented. Reality is *constructed* by human cognition: the concepts or categories used to describe the world are human creations motivated by human needs. They do not describe a reality *in itself*, but are an imposed order governed by prevailing needs and the activities which seek to satisfy them.

To characterise reality as 'humanised' in this way is not to imply that each human individual constructs a separate reality on the basis of personal needs. As we have already seen, Marx regards individuals as social beings with social needs and social consciousness. Thus the concepts formed to describe reality are social creations. But Marx's view does imply that with social variation there will be a variation in the categories by which reality is understood. And this seems to introduce a relativism with quite drastic implications.

Antonio Gramsci, Georg Lukacs, Karl Korsch and some other Marxist philosophers, associated with the Frankfurt School, have interpreted this relativism as arguing that all knowledge is essentially *class* knowledge. (At least, this is the claim regarding knowledge of human activity; the status of logic and of natural science is not very clear in their work.) They include Marxism in this judgement. Marx's theory, together with its subsequent development by others, does not represent a science whose results transcend the class struggle, but is 'critical theory' corresponding to the revolutionary needs or class interest of the proletariat. In other words, Marxism is not so much the study of the class struggle as an articulation of the revolutionary consciousness of the working class. It is a component of the class struggle. Consequently, its validity as knowledge cannot be judged by an 'appeal to the facts'. Facts cannot be independent of conceptualisation: they are theoretical products. The reality to which they pertain is a constructed one, which is not independent of the theory whose validity is at issue. Rather the truth value of Marxism is internally generated. As a force seeking to change the world, its validation can only be a self-validation; its confirmation lies in the change for which it is a motive force.

The general version of such a theory is one in which all forms of human consciousness throughout history are regarded as expressions of historically specific needs. When people perceive the need for change, their consciousness itself becomes an active force working for historical change, and is not simply a passive contemplation of a separate reality. The successful generation of change brings with it both its own validation and the invalidation of alternative forms of consciousness. In other words, historical cognition is itself a force which makes history, generating its own success or failure by prevailing or failing to prevail historically.

There are many statements in the work of the early Marx which can be interpreted as meaning that Marx held to such a position himself. The emphasis he always placed upon the social basis of ideas also suggests that this is a possible interpretation of his position. And the attribution of such a stand to Marx can be used to protect Marxism from criticism. For example, those problems which we outlined in sections 1.5 and 2.5 can be dismissed as the product of alternative, non-commensurate, frameworks of thought. However, there are great difficulties with all this. First, Marx himself makes many statements which do not square with such a thoroughgoing relativism. In *Capital*, for example, he frequently writes as if knowledge transcends classes (see, for example, *Capital* I:7-11). Second, in *Theories of Surplus*

*Value* he regards his own work very much as a culmination of the analysis of the classical economists, whose stated purpose was the construction of an objective science of political economy (see Chs 5 and 6 below). Third, the Gramsci–Lukacs–Korsch view runs into deep problems of specifying the location of the revolutionary proletariat. There is also a logical difficulty of evaluating the Gramsci–Lukacs–Korsch theory in its own terms. If all knowledge is class based, what is the status of this statement in terms of itself?

Marx's view that knowledge is socially formed and practically determined does not in fact entail the extreme relativist position just discussed. This is because one could accept Marx's view and yet recognise that there are non-historical dimensions to human needs and that these generate certain invariant social characteristics. This would imply that there exists a dimension to reality which is common to all people, irrespective of their social and historical location. And Marx sometimes speaks as if this were the case. But it is true that, on balance, he does seem more prone to emphasise the historical relativity of social conditions.

Alternatively, it is possible to avoid an extreme form of social relativism in knowledge by recognising cognitive limitations in the human condition. Even though human reality is 'man-made' in the sense that cognition does, and must, operate through socially formed categories, this does not exhaust reality. It is possible to believe that there is a reality existing independent of cognition which disciplines that cognition. Although reality 'in itself' can never be an object of knowledge, but can only be understood in a 'one-sided' way dependent upon socially mediated practical activity, reality has properties independent of the human condition which preclude rational adherence to those perspectives that contradict these properties. This conclusion is indeed compatible with a great many of Marx's statements on the nature of knowledge. On the other hand, as we have seen in Chapter 2, Marx also makes statements claiming that humanity has the potential to become the total master of its fate. This suggests an unwillingness to accept permanent limitations upon human capabilities, cognitive or otherwise.

In any event, despite Marx's ambiguity concerning the exact parameters of his epistemology, most sense can be made of his work if there is imputed to him the belief that objectively correct knowledge is possible. This is certainly the case with his major works, the *Grundrisse*, *Capital* and *Theories of Surplus Value*, in which his economics is contained. This does not imply that Marx was a naive empiricist. We may accept that changes in practical activity and social organisation will change conceptual frameworks, so that knowledge has a human, social dimension. But we can also agree that alternative conceptual frameworks can be translated into each other: the meaning that they convey transcends the circumstances in which they originate.

Finally, it should be noted that there is a silence in Marx as to the precise standards by which a theory's truth may be assessed. He nowhere states these explicitly, let alone with the necessary clarity. Nevertheless, his

practice is consistent with two criteria: internal logical consistency, and empirical explanatory power. Although there are inevitable difficulties associated with operationalising the second, they are in broad accord with the principles adopted by the dominant schools in the modern philosophy of knowledge. However, in addition Marx also seems to adhere to another criterion, which operates within the general limits imposed by the first two, but which is much more contentious. It specifies that the explanation of human action be cast in terms of *social* determinants. We return to this question in section 3.4.

### 3.3 Marx's dialectical vision

Although Marx did accept that genuine knowledge of a reality transcending class is possible, he denied that it is easy to acquire. He considered that there were systematic forces associated with class which operated to generate distorted accounts of reality. We consider this matter in section 3.6 in our discussion of ideology. Furthermore, while Marx's position does not allow a total subordination of facts to theory, he did emphasise the importance of a perspective which is not itself empirical but which is essential for a correct understanding of the empirical.

Marx himself did not fully articulate his own vision, but we can piece it together from his work, and from the sources which influenced him. It is most appropriately described as *dialectical*, and it pertains only to human activities (unlike Engels, Marx was ambivalent as to whether the dialectical perspective was appropriate to nature). At its heart is the supposition that wholes are more important, or more real, than the parts of which they consist. Each whole is conceived as a matrix of relations which confers upon the parts a set of properties which cannot be deduced from them separately. It is not to the parts of any system that we look to understand that system, but to the systemic whole. It is not the parts which govern the whole but instead the whole which governs the parts, so that the appropriate understanding of any individual part can be achieved only via comprehension of the totality.

The basic irreducible property which wholes possess is the capacity for internal change. Human reality is essentially a *process* rather than a given state or series of states. The motive power of change is contradiction between parts which cannot coexist harmoniously, and whose tension transforms the totality itself. In other words, phenomena always generate or coalesce with other phenomena which are contrary to their own nature, and this energises the whole to transform into something else. As such, wholes are permeated with negativity which will eventually destroy them and create new constellations of elements. Human history is, therefore, always in a state of *becoming* in which the negative is the progressive force. A social world of fixity, security and stability is a conservative myth, as is the notion of harmony in human affairs. Malfunction and crises are not aberrations, but instead manifest the very essence of the human condition. Consequently,

those who seek knowledge and those who would move history must focus upon the negative. Therein lies the agency of change.

As we indicated at the outset of this section, such a perspective is not directly amenable to empirical testing, and is consequently largely immune from criticism on factual grounds. But it is open to logical appraisal and while the dialectical perspective is not internally defective, there is a problem of consistency with other aspects of Marx's methodology. In particular, it is difficult to reconcile the dialectical vision in which the totality dominates the parts with Marx's statements concerning the determination of one part by another part of some whole. If all parts are determined by the whole, then there is no sensible way in which it can be said that one set of parts is the cause of another set of parts. It is true that Marx himself seems to have seen no such inconsistency, but his reasoning is not very clear. (See, for example, *Grundrisse*:83–111, and section 1.5 above.)

### 3.4 The causal structure of Marx's explanations

Marx does not seek to provide explanation of factual matters directly in terms of other facts. Instead he does so via the mediation of categories which, although referring to entities that actually exist, are themselves entities which are not observable. Thus there is an intermediate stage between Marx's vision and the empirical facts to be explained, consisting of a theoretical structure involving precisely defined but unobservable elements. It is the precision of definition which separates this structure from the vision; it is the non-observability which separates it from that which is the object of explanation.

This methodological position is by no means unique to Marx. It reflects instead a more general approach to science which is sometimes referred to as *realism*. It is best understood in contrast to its chief rival, *positivism*, which also seeks to explain empirical phenomena through the formation of theories. But positivists define a theory as composed *solely* of laws pertaining to associations between observable variables. This position rests upon the belief that scientific knowledge applies only to that which can be observed, so that theory must be limited to statements regarding regular successions of empirical events. For the positivist, scientific explanation involves subsuming what is to be explained under such regularities; no more and no less.

There are deep problems with positivism, not the least of which is that scientists themselves have rarely adhered to it in their practice. Marx certainly does not. Like all realists, he seeks causation at a deeper level than that of 'constant correlation'. He looks for necessary connections between phenomena, connections which would not in the nature of the case allow phenomena to be associated differently from the way in which they are associated, and he formulates the mechanism of necessity in terms of non-observable categories. This mechanism constitutes the 'essences' or the 'hidden substratum' lying behind empirical regularities. The term 'theory'

is frequently reserved for this, rather than for associations of empirical phenomena. Marx realises that on this he is in the company of many other scientists: 'all science would be superfluous if the outward appearance and the essence of things directly coincided' (*Capital* III:817; see also *Capital* I:537).

The problem with the realist position is the rather obvious one of providing a rationale for the existence of entities which cannot be observed. This difficulty is not peculiar to Marxism, but besets a broad range of sciences from modern physics to psychoanalysis, including neoclassical and Keynesian economics with their emphasis upon the causal importance of individual intentions and subjective states of mind. The problem really amounts to nothing less than the charge that the realist methodology of science, along with the practice of many scientists, lacks a rigorous philosophical foundation.

Marx's specific form of realism is encompassed in the fact that his theory is a *social* theory. Empirical phenomena are explained in terms of social relations which are not reducible to physical, biological or psychological entities, but themselves form the ultimate basis of explanation. They are complexes with their own laws governing both the character of individuals and the natural entities which they encompass.\* They are also non-observable. It is only the individuals and things that they are postulated to govern which are observable.

We have already seen in section 2.5 that this dimension of Marxism is problematical. The problem appears again here, but in a slightly different light which is related to the general difficulty posed by a realist methodology. It can be formulated as a question. Why assume that causes are social instead of searching with a more open mind for any cause which is appropriate? The only answer which is suggested by Marx is that humanity is unique in being an essentially social species. It is not, like other animals, predominantly moulded by biology. Marx's search for causation is, therefore, constrained. The boundaries inside which causes must be found are laid down by a philosophical conception of mankind.

### 3.5 Determinism and agency

Any form of determinism, whether it be technological, social, biological or psychic, need not imply that ideas, choices and decisions do not exist, nor that they are without meaning. It maintains only that these subjectivities play no independent role, that they function merely as transmission belts for the real determinants of human action. In Marx's case this would mean that, if he were assumed to take a pure determinist position, he would have to treat individuals solely as bearers of social forces. The question to be

\* We have seen in Chapter 1 that there is a technological determinism in some statements of Marx, where the productive forces appear as the ultimate explanatory variable. In common with most modern commentators on Marx, however, we take the view that this is not central to his theory. Rather, his theory is best understood, and is at its strongest, when it is cast as a social theory.



considered here is whether he did in fact do this. Or did he instead regard human decision as involving an independent, non-reducible force, a force in its own right, a force of *self-determination*?

In Chapter 2 we saw that Marx regarded humanity as achieving conscious control over its environment and eventually, in communism, over itself. Conscious human decision was thus elevated to a role which is the exact opposite of that entailed by determinism. On the other hand Marx appears to deny that genuine self-determination is possible in pre-communist societies, where humans are the instruments of their own powers, which have attained an independent existence. Thus there is a dualism in Marx's theory. More precisely, Marx attributes a dualism to history.

The key to understanding this is the significance that Marx attaches to proletarian revolution. As we have seen in Chapter 1, this act results from the same forces that have caused all previous social transformations. As such it is a determined action. But we saw in Chapter 2 that the proletarian revolution has a unique historical role. It ends prehistory; it is the first act of a history in which human consciousness is the decisive force. It is a power of *human agency*. The proletarian revolution thus has a dual character: it is simultaneously a *class* revolution and a revolution against the prevailing *human* condition. Both are fused in the revolutionary consciousness of the proletariat. This consciousness is a product of the social conditions in which the proletariat is placed, but its content is a genuine consciousness of an inhuman condition and the causes of that dehumanisation. It is therefore not subject to the false-conscious or illusory aspects of ideology, as were previous revolutionary classes. The proletariat is truly conscious of its own historical significance and thereby unites necessity with freedom, determinism with agency, fatalism with free will. Marx argues that determinism applies only to the alienated social conditions of prehistory. These conditions exclude human agency as a historical force. Human consciousness and human action are socially determined; individuals are bearers of their social relations, of forces they can neither control nor fully understand, but can only act out. The proletarian revolution is the decisive act ending this condition and as such initiates a truly human history.

Are we then to take it that Marx's position is one in which human agency is *completely* absent from prehistory? He makes many statements which suggest precisely this. For example, in *Capital* he writes:

Intrinsically, it is not a question of the higher or lower degree of development of the social antagonisms that result from the natural laws of capitalist production. It is a question of these laws themselves, of these tendencies working with iron necessity towards inevitable results. The country that is more developed industrially only shows, to the less developed, the image of its own future (*Capital* I:8-9).

This has led to Karl Popper's charge of historicism, according to which Marx had an improper view of science. All historicists, Popper claims, fail to see that any historical trend must depend upon specific conditions that may not persist in the future. We cannot know for certain that they will persist, and

it is false to claim that anything is inevitable. If we accept that knowledge affects the course of history then, in order to predict the future with certainty, we would have to know the future development of knowledge. But this is logically impossible, for such knowledge would not then lie in the future. Only conditional predictions are possible.

The question considered here, though, is precisely whether Marx thought that knowledge could be considered a cause of action or, put more generally, whether anything other than the structure of social relations could *affect*, rather than simply *be affected*. His phraseology often suggests that he does not. But if this is taken literally it seems to generate bizarre results, particularly if it is coupled with assertions giving causal primacy to economic relations. Are we to believe that the novels of Balzac, the plays of Shakespeare or the poetry of Shelley could be reconstructed simply from a sufficiently detailed knowledge of their social milieux? And were Christ, Napoleon and Bismarck simply intermediaries through which social forces propelled history? Marx never explicitly states anything so extreme and, indeed, one can find statements in his work extolling the greatness of past intellects and world historic figures. The problem is not that he does this, but how on the theory he provided he could justly do so. We have in fact met this problem before in different guises. In section 2.4 we noted that Marx talks of individuality in communism but does not explain its basis. In section 1.5 we noted that he talks of determinism and reciprocal interaction without explaining how they are compatible with one another.

Thus this problem pervades the whole of Marx's work. Could it be resolved by categorising Marx as a stochastic rather a pure determinist? In other words, could we not surmount the problem by recognising that Marx was concerned to account for matters 'on the average', and not for the deviations from trend? On this view Marx's theoretical statements relate to the development of aggregate phenomena rather than to the components of those aggregates. This allows for the possibility that some of these 'components' may be particularly gifted individuals who can rise above their circumstances, see further, act more decisively and accelerate or retard the main thrust. Certainly, to attribute such a position to Marx can be justified by the references he makes to the 'accidents' of history. And it is not obviously incompatible with his statements about the laws of social development as akin to natural laws. However, it is not clear whether such a characterisation of Marx's theory really resolves the problem or is merely a restatement of it in different terms. This is particularly so because he does not provide any guidance as to the limits within which 'accidents' are confined.

### 3.6 Ideology

The threat to correct scientific formulations is treated by Marx almost wholly under the heading of ideology. Two aspects of this concept were mentioned in previous chapters: false consciousness (section 2.2), and apologia for particular class interests (section 1.3). These two properties are

linked. False consciousness is a form of distortion of the truth, and the magnet of distortion is most frequently class interests.

Although these ideological aspects of ideas may be blatant or, as Marx calls them, 'base', they are not usually so. Moreover, the distortion involved is often a *bias* rather than a clear-cut falsity. In other words, ideological ideas are not without importance in the development of a correct scientific formulation. Thus Marx believed that classical political economy (which we examine in Chs 5 and 6) had made gigantic strides in the scientific understanding of capitalism, but considered the work of even the best classical economists to be ideological. To characterise ideas as ideological is thus a matter of degree, and not a blanket dismissal of their worth.

The sphere of ideology is not precisely defined. Marx's treatment suggests that he believes an ideological dimension to be chiefly characteristic of ideas in so far as they bear upon the human condition. Consequently, it would be most pronounced in the humanities and social sciences rather than the natural sciences. However, just as there is not a clear-cut division in subject-matter and analytic content, so too the natural sciences, particularly biology, could not escape ideological distortion.\*

This diagnosis of the ideological properties of ideas follows from the nature of Marx's theory, and above all from its use of the social as the basis of explanation. As a result ideology plays two roles in Marx's system. It designates a syndrome of qualities in ideas; and it is used to understand the nature of human action. In other words, ideology is not just a threat to genuine knowledge. It is also an attribute of the consciousness of historical actors.

Marx regards as the proximate source of ideological distortion the view that ideas are asocial in their origination and application, and can thus be treated as pure characterisations governed by an autonomous consciousness devoid of any social dimension. Since this is actually not so, and consciousness has a social quality, the lack of a critical self-consciousness can generate distortions. Marx concentrates upon one especially important form: the use of universal categories in the understanding of human action. This is widespread in political economy, where the concept of atomised decision-makers is appropriate to some agents in bourgeois society, but is used outside of this social context. More generally, he charged, economists failed to appreciate the historical specificity of different modes of production and their corresponding social formations. While they were rarely treated as actually identical, the economists did consider them only as different combinations of shared elements. In this way economic systems were dehistoricised: concepts were defined abstractly enough to encompass their shared characteristics and then used to analyse their operation. There was no recognition that the differences represented different wholes whose elements

\* Marx appears to say nothing about the status of logic. Many of his followers, however, especially Herbert Marcuse and members of the Frankfurt School, suggest that ideological influences also operate here.

took their distinctive form from the whole, and were not themselves parts from which the properties of the whole could be derived. As we saw in section 3.3, this notion is central to Marx's own thinking.

This attempt to analyse historical social forms with universal categories not only introduces distortions (half-truths, misinterpretations, omissions and errors); it tends also to introduce distortions relevant to class interests. Apparently universal categories are based upon attributes specific to a certain type of society, which are wrongly generalised. For example, human action in diverse kinds of society is explained by orthodox economists in terms of acquisitive propensities which actually characterise only particular classes in distinct historical circumstances. Put alternatively, in Marx's view genuine universal categories can only express trivia. They cannot incorporate essential properties precisely because they are not historically specific. Thus, categories which are treated as universal and go beyond trivialities must be filled with a historically specific social content. Since Marx saw class relations as the central feature of societies, he naturally believed that this content must be a class perspective, governed by particular interests and distorted in consequence.

Another important distortion is commodity fetishism, which we have already briefly considered in section 2.3. This involves the depiction of social properties as the natural characteristics of *things*. Again this distortion is not socially neutral. A fetishistic perspective is precisely one in which the social is naturalised, so that it is presented as being beyond human design and therefore unalterable. Such a perspective favours the status quo.

These two examples of ideological distortion, and Marx's more general theory from which they are derived, have been extremely influential in the social sciences. In a real sense the very rationale of these disciplines implies a recognition of ideological forces: the acceptance that there is more to ideas than their content, and that they neither fully explain nor exhaust the significance of people's behaviour. Marx's own theory of ideology is, of course, much more specific than that, since he identifies both the source of the distortion and its significance. The evaluation of his theory depends upon how Marx's emphasis upon the *social* nature of ideology is assessed, and whether we accept the prime importance of *class* within the social. We indicated in section 2.5 that there may be defects in Marx's emphasis upon the social. This also has some bearing on the importance of class. Freud's theory of culture, for example, while devaluing the role of the social in relation to the biological, suggests that in so far as the social is a force, it is family rather than class relationships which are of central importance. It should also be noted that the notion of class interest is rather ambiguous. Marx treats class interests as objectively given, above and beyond the subjective statements made by the individual members of particular classes at specific moments in time. But he does not provide a general criterion by which class interests may be ascertained. Of course, in the case of capitalism especially, Marx takes the view that this is provided by his own substantive analysis. However, this is by no means the same as providing a general

criterion. And there is real force in the distinction because, as we will see in Parts III and IV, there are important defects in Marx's substantive analysis of capitalism.

This point can be made in slightly more general terms. Marx's theory of ideology allows ideas to be explained as the effects of causes of which the holder of those ideas is unaware. But he is not clear as to the standards by which one theory as to the specific cause of some set of ideas may be judged to be superior to rival theories. This silence is related to the problem of how ideological distortion is to be separated out from the residual objective truth in a body of ideas. This requires a criterion by which the ideological can be isolated from the scientific, and Marx does not provide such a criterion.

Despite these deficiencies in Marx's theory of ideology, it does throw light upon the issues raised in section 3.2 concerning the internal relationship of the elements in Marx's thought. Marx saw the proletariat as the negative force of bourgeois society, and bourgeois society as the arena in which mankind's breakthrough in the mastery of nature has occurred, allowing the realisation of a fully human existence. The proletariat represents not only a progressive force but also a force for human freedom. Involved in this is that the proletariat perceives the true nature of capitalism, of history and of the human condition, while other classes do not. Marx is not saying here that truth is class based. Instead, he is saying that there are truths which transcend classes but which can only be fully perceived by those who view reality from one class perspective and not from others. This is in accord with the social nature of his theory. And it is not the patently ridiculous claim that only those people who are categorised as part of the working class can perceive the truth, precisely because class is a theoretical notion distinct from empirical individuals. Hence the scientific significance that Marx gave to his own political economy: it is claimed to be the analysis of capitalism from the epistemologically privileged standpoint of the proletariat.

### Reading guide

The main sources of Marx's conception of the social-practical basis of knowledge are the *Economic and Philosophic Manuscripts of 1844* and the *Theses on Feuerbach*, written in 1845. The latter is contained in SW I:13–15 and in McLellan's anthology (*Karl Marx: Selected Writings*:156–8). Evidence for the view that Marx never abandoned his early position can be found in *Notes on Adolph Wagner*, written in 1879–80 and reprinted in Carver (1975). Kolakowski (1968:58–86) is also very useful on Marx's conception of truth, as are Lukacs (1923), Korsch (1923) and Gramsci (1936). McLellan (1980) provides a brief discussion of the ideas of Lukacs, Korsch and Gramsci, together with a bibliography of their writings and secondary sources. Their work is further discussed in Jacoby (1981) and Kolakowski (1978c).

The nature of Marx's dialectical vision is covered by the above

references and also by the references given in the reading guide of Chapter 2; Marcuse (1941) may also be found to be useful on this matter. The best introduction to modern philosophies of science is Keat and Urry (1982), which also contains a discussion of Marx's realism. An assessment of the various strands in positivism is given by Keat (1981):Chs 1–2. Ryan (1970) is also helpful on questions of method, but less useful for understanding Marx. Blaug (1980a) discusses methodology with explicit regard to the history of economic analysis and the work of modern economists; Marx's analysis is covered separately in Blaug (1980b). Both adopt a Popperian position on the philosophy of science and, therefore, view Marx's methodology differently from the perspective of this chapter. The charge of historicism is made in Popper (1961).

Marx's theory of ideology is nowhere outlined systematically in his own work, but the relation of ideas to class interests is spelled out in *The German Ideology*. Commodity fetishism is dealt with in *Capital* I:71–83 and also in *Capital* III:Pt. VII. Parekh (1982) is a clear exposition of Marx's views on ideology. A more general discussion of the topic can be found in Blackburn (1972), Harris (1968), MacIntyre (1971), Mannheim (1936) and Plamenatz (1970).

## Chapter 4

# Value, capital, exploitation and equilibrium: the structure of Marx's economics

### 4.1 Introduction

In this chapter we consider the analytical structure of Marx's political economy. The next section describes the purpose of his work. Section 4.3 outlines the sense in which Marx's economics is an equilibrium economics, and what this implies for the analysis. Section 4.4. reaffirms the *social* nature of Marx's theory and indicates how this affects his political economy. This is followed in section 4.5 by an explanation of the nature of Marx's concepts, which is probably the most difficult part of the chapter. Marx's concepts are, however, further explained in sections 4.6, 4.7 and 4.8 where the value categories are dealt with in some detail. Finally, section 4.9 provides a thumb-nail sketch of Marx's exposition in *Capital*, and a guide for readers who wish to undertake the mammoth task of reading the three volumes of *Capital* for themselves.

It is in the nature of the case impossible to present the methodological and structural aspects of Marx's economics in complete isolation from the substantive economic theory. We have taken advantage of this by introducing into the present chapter important elements of the Marxian theory of value, which will form a springboard for the following chapters.

### 4.2 The purpose of Marx's economics

Marx's life work was devoted to the problem of realising human freedom. He sought to expose the nature of the existing human condition, what that condition could potentially become, and how the difference could be resolved through proletarian revolution. The purpose of his theoretical work was to assist the class struggle. The proletariat must not only carry out a revolution, but must do so with an adequate theoretical understanding of what it revolts against and can accomplish in doing so. The function of his political economy lies here: to inform and guide the revolutionary activity of the proletariat.

The political economy of Marx is, then, not simply an academic study of economy and society. Indeed, in terms of Marx's own epistemology,

cognitive activity independent of socially formed practical needs is impossible. But he did not consider this to be incompatible with objectivity, with the analysis of what is, as it is, rather than in terms of how it ought to be. And here Marx was absolutely correct. As we will see, neither the strengths nor the weaknesses of his economics depend upon either the acceptance or rejection of particular moral values.

Marx's political economy can thus be assessed in the same way as any other system of economic thought. Furthermore, there are important similarities with other types of economics. One reason for this is that Marx built his political economy upon a critique of his classical predecessors, especially Smith and Ricardo. He refashioned their concepts, corrected what he considered to be their logical defects, reinterpreted results and extended the analysis. Consequently there are substantial similarities between Marxian and classical political economy. Since neoclassical economics and Keynesian economics also arose in part as a critique of the classical economists, there are also resemblances here too: for example, in the use of an equilibrium methodology. But the divergences between Marx and these latter two types of economics are much more important. This is especially true of neoclassical economics, whose founders criticised classical political economy precisely on those grounds which Marx took to be its strengths, namely, the analytical devaluation of competition, supply and demand, and individual subjectivities. Even when there are similarities, as in the use of an equilibrium method, there are very significant differences in the content of the analysis.

### 4.3 The equilibrium methodology

In all types of theoretical economics a concept of equilibrium figures prominently. In each case, it provides a simplifying device without which many problems would be greatly more complicated. This is particularly the case in the analysis of a capitalist economy where economic change is diverse and complex. What an equilibrium concept does is to allow the analysis to ignore changes which are considered to be of secondary importance, either generally or for the specific problem analysed. It thereby allows concentration upon the changes which are considered to be of first importance.

Marx defines equilibria in the same way as classical political economy. They are states of the economy where the profit rate in each industry is the same, where the wage rates received by units of the same type of labour are the same, and where units of the same commodity are traded at the same price. Concentrating analysis upon such equilibria means that those economic changes arising simply because there are non-uniform prices, wages and profit rates are ignored. For many problems this will not be a very dramatic simplification. Such changes are unlikely to be of special relevance in determining the overall levels of profitability, employment and the distribution of wealth, which are Marx's chief concerns.

The issues involved in focusing on equilibrium states can be put in slightly different terms. In circumstances where wages rates differ for



labourers of the same type, where rates of profit on capital in different sectors are unequal, and where units of the same commodity sell at more than one price, capital and labour mobility will persist under competitive conditions until these non-uniformities are eliminated. So far as these forces are concerned, then, Marx's equilibria represent terminal states, states in which it is assumed that these forces have already completed their work.

This indicates the difference between alternative concepts of equilibrium. They differ precisely with respect to those economic forces for which they represent terminal states. In contrast to Marx, modern neoclassical theory defines equilibrium as a state of market clearance. This is not equivalent to Marx's concept because the price, wage and profit uniformities definitive of Marx's concept can occur when markets do not clear: for example, with large and persistent unemployment of labour power. Underlying the difference in definition in this case is a substantive difference as to how capitalist economies function. Adherents of neoclassical economics consider that market adjustments will continue until any excess supply of labour power is eliminated, and also maintain that these adjustments are relatively quick. Marx assumes neither.

The use of an equilibrium concept does not mean that *all* change is assumed away. Rather, equilibrium concepts allow the analysis to concentrate upon particular types of change in isolation from others, so that their precise effects may be separated out and better understood. For instance, Marx analyses technical change in terms of equilibria. Generally speaking, equilibrium prices and the rate of profit will be sensitive to the processes of production in operation. By specifying a pattern of technical change, Marx can trace out its effect upon the rate of profit and upon prices in different equilibria, in isolation from the forces of capital and labour mobility which are considered to be only complicating details. Orthodox economists call this type of analysis comparative statics. (The use of the word statics is, however, a misnomer, as there is nothing necessarily static about the method. It would be more accurate to refer to it as the method of comparing equilibria.)

More generally, the economic magnitudes which Marx seeks to explain are equilibrium magnitudes. In the case of his price theory, for example, he does not seek the determinants of prices *per se*; he seeks instead to explain prices in equilibria (or in circumstances similar to an equilibrium in some respect). The same is true for his theory of profit and his analysis of employment. This is not to suggest that Marx never moves from the domain of equilibrium. He sometimes does do so, primarily in his theory of crises. But the emphasis in his theoretical economics is clearly on equilibrium. And in this respect, Marx is on common ground with other schools of theoretical economics. Where he differs radically from them is in the explanation of equilibrium magnitudes.

#### 4.4 The social nature of Marx's economics

In the preceding three chapters we have referred continually to the

social nature of Marx's theory. Not only are Marx's problems those concerned with explaining human activities within societies but, more fundamentally, his explanation is grounded upon social properties. His explanations of all economic phenomena are based upon the historically specific social relations of the relevant mode of production. Economic phenomena (methods of resource allocation, the distribution of income, dynamic laws of economic development) are what they are because of the nature of the relations between economic agents. When these relationships change so do the economic laws to which they give rise. No other type of *theoretical* economics exhibits this social quality.

Consequently Marx defines economics as the science which studies how historically specific systems of economic relations originate, operate and change (see, for example *Grundrisse*:852-3). Marx does not simply seek to undertake this task qualitatively, showing how different economic relations underlie different forms of resource allocation, distribution and type of development. He also seeks, wherever possible, to do so quantitatively: in the case of capitalism, for example, to show how the historically specific set of capitalist economic relations determines the quantitative exchange ratios between commodities, the quantitative proportions of total income received by different classes, and the rate of growth. Thus he makes no sharp distinction between sociology and economics. Economics is defined sociologically in terms of the social relations of production. Furthermore, since the materialist conception of history emphasises the causal importance of the economic structure for all social phenomena, economics is for Marx the most basic of all social sciences.

Consistent with his sociological view of economic theory, Marx analyses motivation in terms of the social division of activity which constitutes the historically specific economic structure under consideration. So far as most historical modes of production are concerned, this entails conceiving motivation in terms of the class position of the individual, and thus in terms of the social relations by which that position is defined:

Society does not consist of individuals, but expresses the sum of inter-relations, the relations within which these individuals stand (*Grundrisse*:265).

In the course of our investigation we shall find, in general, that the characters who appear on the economic stage are but the personifications of the economic relations that exist between them (*Capital* I:85).

Here individuals are dealt with only in so far as they are the personifications of economic categories, embodiments of particular class-relations and class-interests (*ibid.*:10).

Motivation is thus traced back to the operation of economic structures which exist and function independently of the conscious control of the individuals of which they are composed. This does not imply that economic actors are inert and non-conscious. But it does imply that human activity and consciousness is only that of the individual as he or she fills a social position.

#### 4.5 Marx's economic concepts

Marx's own economic analysis deals most extensively with the capitalist mode of production as defined in section 1.4. However, he begins by considering capitalism in terms of commodity-producing systems generally. This is a wider category of which capitalist commodity production is only a special (albeit the most important) case. He approaches from this angle because he believes that there are complexities associated with all forms of commodity production which lend themselves to ideological distortion. These have to be resolved before the nature of capitalism itself can be appreciated.

This complexity arises because the social relationships of commodity-producing systems interpenetrate with things and in consequence generate a fetishistic perspective. Engels states this with clarity when he writes that 'economics deals not with things but with relations between persons, and in the last resort, between classes; these relations are, however, always *attached to things* and *appear as things*' (SW I:514). This point is central for an understanding of Marxian economics. In Marx's view it is the social relations of production which govern the way in which material objects enter the economic process. If these social relations are attached to things and appear as things this in no way detracts from their status as social relations.

Given the causal primacy of social relations, Marx considered it both illegitimate and confusing to consider them simply as relations between things. However, where social relations are attached to things it is possible to use the concept which embodies the social relationship also to denote these things, in so far as they are attached to the social relations in question. This is Marx's practice, and it explains his habit of referring to material objects as 'definite social relations'.

Other difficulties arise because of Marx's dialectical vision, in which each mode of production is conceived as an organic unity of elements:

While in the completed bourgeois system every economic relation presupposes every other in its bourgeois economic form, and everything posited is thus also a presupposition, this is the case with every organic system. This organic system itself, as a totality . . . consists precisely in subordinating all elements of society to itself, or in creating out of it the organs which it still lacks. This is historically how it becomes a totality (*Grundrisse*:278).

Each part of bourgeois society is what it is because of its relations to the whole. In consequence any particular aspect of the whole becomes fully intelligible only when viewed in terms of the whole. So Marx's conceptual structure also displays this property of organic interconnection. Each aspect of reality, and each concept which reflects it in the conceptual structure when fully defined, is viewed as a different aspect of one whole, and as implying or including the other aspects. Each has many different facets and can be treated from many different angles. The whole, real or conceptual, is contained in each of its parts (*Grundrisse*:512–14).

This further implies that each social attribute is related to the processes of change, past and potential, associated with the whole. As such, each social factor is 'related to its own past and future forms, as well as to the past and future forms of the surrounding factors' (Ollman 1971:18). This again has parallels in the conceptual structure of political economy, for theoretical categories are only simplified, one-sided representations of their subject-matter (*Grundrisse*:106).

This means that Marx's concepts are unstable. Engels pointed this out when he warned against expecting 'fixed, cut to measure once and for all applicable definitions in Marx's works', and noted that

It is self-evident that where things and their interrelations are conceived, not as fixed, but as changing, their mental images, the ideas, are likewise subject to change and transformation; and they are not encapsuled in rigid definitions, but are developed in their historical or logical process of formation (*Capital* III:13-14).

There are difficulties with Marx's procedure here. His concepts contain the substantive theory to a degree well beyond the sense in which all concepts must of necessity contain theory. This makes clear exposition very difficult indeed (as Marx himself found). Furthermore, his conceptualisation in terms of totalities is not compatible with statements he makes regarding the causation of one element of a whole by another element in that whole. We noted this problem before in section 3.3. In this context we would add that to talk of causation requires less 'total', more partial, definitions of concepts, and to make sense of Marx's causal statements the concepts involved have to be interpreted in this way.

#### 4.6 The value concepts

The preceding three sections allow us to understand the significance that Marx attaches to his value concepts, and why economists from other schools have found these concepts so puzzling. Non-Marxian economics uses the term commodity to mean an article of utility or, in Marx's terminology, a 'use value'. Marx incorporates this into his definition of a commodity, but his definition is not exhausted by this aspect precisely because it does not encompass a social relation:

articles of utility become commodities, only because they are products of the labour of private individuals or groups of individuals who carry on their work independently of each other . . . [and] do not come into social contact with each other until they exchange their products (*Capital* I:72-3; see also *ibid.*:42 and 624).

Engels points out that such a product is 'a commodity solely because a relation between two persons or communities attaches to the *thing*, the product, the relation between producer and consumer who are no longer united in the same person' (*SW* I:514).

Further analysis of the commodity leads directly to the concept of

value. In exchanging their products commodity producers create a quantitative relation between things (or, as we can now call them, commodities). This quantitative relationship between commodities Marx calls their exchange value; it is generally expressed in terms of money where there is a developed system of exchange. However, since in commodity production the social character of production is expressed through this exchange of commodities, these exchanges are simultaneously exchanges of the activities of the producers set apart by the division of labour. Thus the relation between the commodities (things) is simultaneously a relation between people (commodity producers). Marx's concept of value represents this social relation of commodity production. Since the relationship takes place through the exchange of commodities, the concept has to express the social relations of the producers as relations between commodities (things). As Marx puts it, 'value is a relation between persons . . . expressed as a relation between things' (*Capital* I:74). Consequently *value* must be distinguished from the associated concepts of *exchange value* and *use value*, as defined above.

Marx's reasoning is as follows. Commodity production is social because producers work for each other by embodying their labour in things which they exchange on the market for other similarly produced things. If we abstract from the non-social physical aspects of commodities and consider them solely as the output of commodity producers, then the only quality they have in common is that being the products of human labour. To do this is to abstract the social relations of commodity producers from the material objects to which these social relations are attached and as which they appear. Human labour thus possesses the property of being able to represent the social relations of commodity producers. Human labour is in fact the only property of a commodity that can embody the social relations of commodity production, since it is the only property left when we abstract from the non-social, material properties of commodities.

In expressing the social relations of commodity production, then, the concept of *value* refers to the commodity conceived as a product of human labour; and the quantitative magnitude of value is the amount of labour embodied in it. This is measured in 'socially necessary' units: units of labour 'required to produce an article under the normal conditions of production' and in the amount demanded by the market (*Capital* I:39, 107). Value is thus a property of a commodity, but it is not a physical property. It is a property which is socially attributed to objects because they are the results of a historically specific form of social labour (*ibid*:47).

The concept of value, then, is identical to that of commodity when it is conceived abstractly as expended labour. As we have seen, to be a commodity an object must also have utility; this is clearly so for all objects intended for human consumption, irrespective of the social context. However, only commodities can possess value, simply because value is a property given to a thing by virtue of its production by human labour in a certain set of social relations.

The use value of a commodity, on the other hand, as with the use value of all things irrespective of social context, stems from those properties of things which we ignore when we consider the commodity as a value, that is, its physical, non-social features (*Capital* I:37–8). It follows that although value exists only in objects possessing utility, the magnitude of use value does not affect the magnitude of value. This follows directly from the definition of these concepts. Value is a concept expressing a relation between producers, while use value refers to the relation between the consumer and the thing consumed.

Marx's concept of value is, of course, very different from that of orthodox economics. Here the term simply means price, or the ratio in which one good exchanges for another at a point in time and space. Marx reserves for this the term *price* or *market price*, and *price of production* for its long-run equilibrium level, and often uses the term *exchange value* to refer to either or both, depending on the context. The magnitude of value determines such prices of production, but the precise relationship between them cannot be stated for commodity production *per se*. The specific form of the relationship between value and price of production depends, as we shall see, on the *type* of commodity production, whether capitalist or pre-capitalist and, if the former, on the various stages of capitalist development. Marx's labour theory of value is a complex set of statements which shows how the social relations of production determine relative prices in the whole range of commodity-producing societies found in historical development (see section 4.9 below).

The concepts of commodity and value relate only to commodity production. Capitalism is just one specific form of commodity production; not all systems of commodity production are capitalist. The production of commodities is common to many forms of society. Its purest non-capitalist form, Marx argued, was colonial North America, where the settlers were independent artisans and farmers who owned their own means of production, worked on their own account and marketed their own surpluses as commodities (*Capital* I:Ch. XXXIII).

The concept of *capital* applies only to the historically specific social relations of capitalist society. Capitalism is a unique form of commodity production: it is only here that the labour power of the producers is sold as a commodity to a capitalist who then uses it in the process of production, which he controls. The capitalist–labourer relation is the distinguishing characteristic of capitalist commodity production. Marx's concept of capital refers to this relation, denoting a particular form of the social division of labour. Since it is through this form of the social labour process that the capitalist exploits the labourer, the term *capital* is extended to cover this historically specific form of exploitation (see section 4.7 below). The concept is also extended to cover the social properties of things. The capitalist can only exploit the worker because he possesses the means of production which the worker must use in order to produce at all. The definition of capital, then, extends to include 'the means of production monopolized by' the capitalist class (*Capital* III:815).

Capital is *not* the means of production as such, but the means of production used in the capitalist-labourer relation: 'capital is not a thing, but rather a definite social production relation belonging to a definite historical formation of society, which is manifested in a thing and lends this thing a specific social character' (*Capital* III:814). In commodity production products take the form of commodities, and these commodities are values. Thus capital is made up of commodities, and can be represented as a sum of value which can be measured in socially necessary labour units. It is therefore also 'stored-up labour', which raises the productivity of wage-labourers in the production process.

So far the focus has been static. But capital changes its form as the economic process unfolds. It initially takes a money form, which is then exchanged for commodities (means of production and labour power). These are set to work to produce new commodities, which are then sold. If everything has gone according to the capitalist's expectation, a larger quantity of money than the initial quantity is received from the sale. Capital in this process of circulation takes four forms:

MONEY → COMMODITY → COMMODITIES' → MONEY'

or M-C-C'-M'. At each stage capital changes its form, but in every case it is still capital. Thus Marx uses the term capital to cover this process of circulation, as well as each of its elements, or – to put the point differently – to refer to money that circulates in this way (*Capital* I:147).

All this lies in a different world from that of orthodox theory, where capital is defined simply in terms of things themselves, that is, as the produced means of production. Marx explicitly rejected such a definition of capital because of its non-relational, ahistorical character. Such a definition, he believed, could only serve to conceal the specific nature of capitalist exploitation, income distribution, relative prices and the whole accumulation process. It was a reflection of the fetishism of commodities (see section 3.6).

Clearly one major problem in coming to terms with the political economy of Marx is the difficulty encountered in deciphering his concepts. Terms such as value and capital are defined as *relations* and thus contain 'in themselves, as integral elements of what they are, those parts with which we tend to see them externally tied' (Ollman 1971:15). Only so long as the requisite relations hold in reality is the concept applicable. Hence the concept *capital* is not applicable to the feudal economic system, for example, because here the capitalist-labourer relation is non-existent. Perhaps more than anything else the difficulty springs from the multidimensional character of these concepts. In the concept of capital, for instance, we see that the capital-labour relation can be treated as part of the definition of capital. This is possible because the concept of capital has many referents, and such a conceptualisation is possibly only because Marx views capitalism as an organic relational whole.

This indicates how Marx unifies what would now generally be considered to be sociological factors (that is, social relations) and economic factors (relative prices, income shares of wages and profits, and the accu-

mulation process). It should be clear that this is no simple agglomeration in terms, for example, of framing mutually compatible propositions or suggesting that 'sociological' factors affect 'economic' variables. Marx builds up his economic theory directly from the structure of social relationships.

The success or failure of Marx's endeavour cannot be assessed at this stage, even in a preliminary way. Any evaluation depends *inter alia* on technical matters which we will not be in a position to consider until Part III of this book. Until then we treat the value categories as thoroughly unproblematical.

## 4.7 Exploitation

Marx's view of social reality is not a description of reality as it appears to economic agents. For Marx, in fact, appearances are illusory; 'reality as it appears' to social actors is deceptive. He talks of 'reality' as hidden or concealed by 'appearances'. It is the role of scientific political economy to penetrate through appearances to the reality, and to make appearances scientifically comprehensible. Only when viewed in terms of this underlying structure is the perception of appearances a true perception, as opposed to false consciousness.

This, of course, is a restatement of Marx's realist position on scientific methodology which we considered in section 3.4. He argued additionally that much contemporary political economy was concerned with appearances only; and it is in fact in the domain of political economy that the greatest difficulties exist for scientific work. This is because its main subject-matter, commodity production, is exactly that form of production where social relations are attached to things and appear as things. Thus relationships between things are not perceived for what they really are, as social relations 'for which the material elements of wealth serve as bearers'. Instead they appear as, and are conceived as, stemming from the 'properties of these things themselves' (*Capital* III:826).

For Marx the false world of appearances is not limited to this fetish perspective. The capital-labour relation appears as an ordinary relation of exchange, and Marx is adamant that this appearance in itself leads to illusions that form part of the ideological structure of bourgeois society. The essential feature of the capital-labour relation is the exploitation of the labourer by the capitalist which forms the basis of profit, and this is not evident in the appearance of the relation as an ordinary exchange relation. It is clear, for instance, that the income of the slave-owner and the feudal lord derived from political force and legal custom. But capitalism is characterised by personal freedom and market competition, with prices that all are forced to pay because no one controls them. The capital-labour relation seems to be a social relation of exchange, a quantitative exchange of market-determined equivalents: a given amount of labour supplied for a specified wage. It appears only as a particular example of the larger category of free and equal exchange relations:



in so far as the commodity or labour is conceived of only as exchange value, and the relation in which the various commodities are brought into connection with one another is conceived as the exchange of these exchange values with one another, as their equation, then the individuals, the subjects between whom this process goes on, are simply and only conceived of as exchangers. As far as the formal character is concerned, there is absolutely no distinction between them. . . . Each of the subjects is an exchanger; i.e., each has the same social relation towards the other that the other has towards him. As subjects of exchange, their relation is therefore that of *equality*. It is impossible to find any trace of distinction. . . . Thus, if one individual accumulates and the other does not, then none does it at the expense of the other . . . if one grows impoverished and the other grows wealthier, then this is of their own free will and does not in any way arise from the economic relation, the economic connection as such, in which they are placed in relation to one another (*Grundrisse*:241–7).

It is this appearance which constitutes the rationale for neoclassical theorists' view that the capital–labour relation is not itself of central importance, because it is only one specific form of a more general category of exchange relations.

Marx believed that this perspective was incompatible with a satisfactory theory of property income, and especially with a theory of profit. How can property owners appropriate such an income when economic relationships are apparently free and equal, and exchange is an exchange of equivalent values? Marx systematically reviews economic theory in his search for a correct scientific answer to this question (see Chs 5 and 6). He finds only hints but not an adequate explanation. He himself solves the problem by arguing that the appearances which we have discussed actually conceal reality. The illusion results from looking at the capital–labour relation as a simple exchange relation. What the capitalist buys from the labourer is not what he appears to buy. The capitalist does not buy the worker's *labour*, but his or her *labour power*: not the worker's productive activity, or what the worker creates in a specified period of time, but labour power, the worker's capacity for labour, or control over the worker's creative capacity for a specified time period.

This distinction forms the basis of Marx's theory of exploitation. He maintains that the economic forces of capitalist society are such that there is a difference between the exchange value of labour power and the exchange value of what is produced by its use (that is, the exchange value of the product), and this difference is the source of the capitalist's profit. This can be put in the terms used by Marx in volume I of *Capital*. The labourer's time may be split into two parts: (i) that period during which the magnitude of the value created is equal to the value of the commodities received (indirectly) from the capitalist through the wage: this Marx terms *necessary labour time*; (ii) that period during which value is created over and above that received in wages: this Marx terms *surplus labour time*. The ratio of surplus to necessary labour time is termed the *rate of exploitation*.

We can now see that, in capitalism, the value of a commodity has three components. The first part represents the value of the raw materials

and machinery used up in its production. The second part is that which replaces the value of the workers' labour power (that is, the first component designated above); and the third part is made up of the surplus labour (the second component designated above). From the viewpoint of the circulation of capital, the first element is termed *constant capital* ( $c$ ), since it 'does not, in the process of production, undergo any quantitative alteration of value' (*Capital* I:209), but merely passes its value on to what it produces. It is also termed *dead* or *stored-up* labour. The second and third elements represent *living* labour (see Fig. 4.1). The second component is termed *variable capital* ( $v$ ), because the capitalist's purchase of labour power allows value to expand through the creation of the third component. This third component is *surplus value* ( $s$ ): 'its receipt by the capitalist requires no further extension of his capital' (*ibid.*). Commodity values, whether for an individual commodity, a set of related commodities, or for an entire economy, can thus be written as  $c + v + s$ .

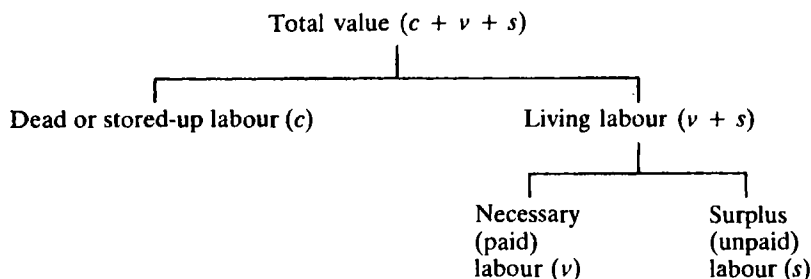


Fig. 4.1 The three components of value.

The division of capital into constant and variable components is unique to Marx's political economy. The distinction is made neither by classical nor by any other branch of non-Marxian economics, where only the dichotomy between *fixed* and *circulating capital* is considered relevant. This is drawn according to the speed of turnover or the degree of durability of the various components of capital. Fixed capital consists of those inputs whose depreciation (or full use) takes place over several production periods and is usually taken to consist of buildings and machinery. Circulating capital comprises those inputs fully used in a single production period, and is frequently assumed to take the form of both wage payments and raw materials (see Fig. 4.2). Marx also makes use of this dichotomy, often implicitly assuming that all capital is circulating capital (and we follow him in this until Ch. 9). However, he argued that this dichotomy was of subsidiary importance. It is the distinction between constant and variable capital which is central to the explanation of profit: variable capital creates surplus value (since it leads to the performance of surplus labour), which constant capital cannot. It is only the expenditure of capital on living labour which leads to the creation of value, and hence to the production of surplus value. Means of production – machines and raw materials representing materialised or

	<i>Fixed</i>	<i>Circulating</i>
Constant	Machinery and buildings	Raw materials
Variable	—	Wage-goods

Fig. 4.2 The components of capital.

stored-up labour – merely transfer their pre-existing value to the commodity. Means of production do not produce new value; they only replace their own value.

All this is fully compatible with Marx's concept of value, which embodies the key social relationship of commodity production. Relations between material objects (for example, between the means of production and physical output) are not social but technical relations between things. Means of production obviously increase physical output, but they do not create value; they merely pass on their value in the process of production. Thus, when one reads (usually in criticism of Marx) that for him the physical means of production do not create value this does not also mean that their physical productivity is zero (as confused critics think it does). So surplus value is created in the production process by the performance of unpaid labour. Given the rate of exploitation, its magnitude depends on the quantity of living labour employed, and not on the quantity of constant capital that is used. While there appears to be equality in the labour market, with all labour being paid labour, there is in reality exploitation; some labour is unpaid labour (*Capital* I:539–40).

During the course of his analysis Marx also attacks the notion that the worker disposes of labour power without compulsion. Marx argues that in an important sense the worker is *forced* to sell labour power, and thus all labour is 'forced labour'. The compulsion acting on the worker is not political, nor legal, nor overtly coercive, as in pre-capitalist societies. It is precisely in a negation that the compulsion lies. It is the producers' non-ownership of the means of production which compels them to sell their only asset, labour power, to the capitalist class which monopolises the means of production. Free choice in the labour market is limited to choosing which particular relation, which particular capitalist to work for.

Having undermined these twin illusions created by the appearances – the exchange relations – of capitalist commodity production, Marx's analysis necessarily leads beyond consideration of the process of exchange or circulation:

The relation of exchange subsisting between capitalist and labourer becomes a mere semblance appertaining to the process of circulation, a mere form, foreign to the real nature of the transaction, and only mystifying it . . . what really takes place is this – the capitalist again and again appropriates, without equivalent, [the surplus labour of the producers through the process of production, by putting the labour power which he has purchased to work] (*Capital* I:583).

The change in perspective from the 'phenomenal form' to the 'hidden substratum' is, therefore, also a process in which the analysis shifts from exchange relations to those of production. The illusions arise from the appearances of the circulation process; the reality is uncovered by the scientific analysis of the production process. Hence Marx condemns any economic theory which limits itself to consideration of the appearances of exchange and emphasises the importance of supply and demand, competition and the market. Marx called such economic theory *vulgar*, in the sense that it is concerned only with superficial appearances. It is only by probing beneath exchange to production that one could place exchange in a scientific perspective (*Capital* III:337). Only thus is it possible to understand how the social relations of material production, as expressed in the concepts of value and surplus value, underpin the familiar concepts of prices, profit, rent and interest.

So Marx's theory of exploitation is not a moral condemnation of capitalism. Exploitation is a property of social relations. Marx seeks to capture this property in his value categories, which also allow him to quantify the degree of exploitation. How well these value categories can in fact perform this task is examined in Part III.

#### **4.8 Qualitative and quantitative aspects of the value categories**

It is useful at this stage to consider the concepts of value and surplus value in relation to the themes developed in earlier chapters. In particular, it is important to note that these concepts and their attendant theories are in complete harmony with Marx's theory of alienation. For example, his theory of capitalist exploitation is based upon the capital-labour relation. This means that it rests upon a labour process which is outside the control of the worker. Furthermore, in seeking to increase exchange value without limit, capitalist acquisitiveness involves maximising the production of surplus value. In this sense human activity is subordinated to a non-human purpose. Consequently, the statements that Marx makes in terms of value and surplus value can be interpreted in terms of his theory of alienation and also, by implication, in terms of his theory of freedom. Marx's value categories, therefore, have a philosophical significance.

However, they also have a more mundane function in economic analysis: for example, in explaining the determinants of prices, profits, rents and wages, measuring the degree of capital intensity in an economy or sector of an economy. In this respect the value categories have both a qualitative and a quantitative dimension. They relate both to the nature of social relations, which is a qualitative matter, and to the determination of economic variables which are quantitative in character. It is incorrect to ignore one aspect and concentrate attention wholly on the other, although it is frequently done. Philosophers and sociologists tend to emphasise the qualitative features and dismiss the technical economic matters as unimportant,

while economists have the tendency to do exactly the opposite in their discussion of Marx.

In Marx's view neither aspect is unimportant. He wished to show that the economic phenomena of capitalism, even the most concrete and trivial aspects, rested upon its historically specific social relations, which were characterised by properties fundamentally inhibitive of human freedom. The value categories, which attempt to incorporate the historically specific social dimension of capitalism, obviously bear upon both matters. They would be inadequate in Marx's view if they did not do so, but could only be used for one purpose.

There are four further aspects of the quantitative dimension of value which have been the subject of some confusion. First, values are not measured in labour time *per se*; they are measured in socially necessary units of labour time. This means that values are determinants of economic magnitudes only in specific circumstances, not in all possible conditions (see section 4.3).

Second, statements of the form 'price equals value' or 'price exceeds value' are sometimes made. Very often these statements are problematical because the units in which prices are measured are not explicitly specified. In this event, the unit of price measurement should be taken to be the same as that of value measurement. This might seem peculiar in that prices are normally considered to be measured in monetary units and not units of labour. However, units of measurement are not themselves significant, since they do not affect substantive conclusions; in this sense they are arbitrary and open to choice. It can as easily be assumed that prices are measured in units of labour time as in units of gold or units of some fiat money. Economists call the unit in which they are measured the *numéraire*, and this terminology will be used in this book.

Third, although Marx seeks to explain economic phenomena in terms of the value categories, he does not require in doing so that the economic actions of agents be orientated to labour value magnitudes. Capitalists, for example, are concerned with prices and profits, and not with value and surplus value. The purpose of the concepts of value and surplus value is to explain prices and profits, and for this Marx does not require that they be direct behavioural entities. However, he sometimes makes statements which do suggest that the value categories are of the same status as price and profit categories. This issue is further explored in the next section and in Chapter 10.

Fourth, as we have indicated in section 3.4, although the 'social' is not directly observable, the value categories which represent specific social properties of commodity-producing systems are observable. Or, stated in different terms, value categories have the same kind of observable status as do equilibrium price and profit magnitudes. Given the requisite information on technology and social relations, they can be calculated with equal ease. Thus the use of value categories is not identical with carrying out a 'social' analysis of economic phenomena. The value framework represents only one

form whereby the former is made operational. Consequently, when Marx referred to values as 'hidden' he probably did not mean this in an epistemological sense. Despite some ambiguity in his treatment of this matter, his point would seem to be primarily sociological. Economic agents relate their actions to price and profit magnitudes, and to carry out their functions within commodity-producing systems they do not need to probe beyond these into labour values. In Marx's terms, therefore, these agents' perceptions remain at the level of 'appearances' and as such are misleading. One purpose of his work, of course, was to destroy such an ideological perspective.

#### 4.9 The structure of Marx's *Capital*

*Capital* is not an easy book to read, and there is ample evidence that Marx found it very difficult to write. His economic researches covered the greater part of his adult life, during which his knowledge grew, his interests widened and his perspective altered. Again, the circumstances of his exile in England were hardly conducive to peaceful study. Pursued by his creditors, and harassed by the attempt to maintain a respectable middle-class life style without the necessary material resources, Marx's existence was anything but serene. His subject-matter was intricate and wide-ranging. He seems to have found the act of writing stressful at the best of times, and painful at the worst. Finally, and decisively, he simply set out to do too much. As originally conceived, *Capital* demanded the attention of several persons of genius. It was the work, part-time, of one.

The result was an incomplete masterpiece. Three of the six 'books' that Marx intended to write (on the state, international commerce and the world market) were not even started. He sent only *Capital* I to the press himself, leaving *Capital* II and III to be pieced together by Engels who struggled to create order out of chaotic manuscripts. There is order, structure, an underlying analytical pattern, in Marx's *Capital*. But it must be sought by the reader. It is not transparent in any table of contents, nor does it unfold in the titles of the successive chapters.

In a sense there is not one 'structure' but two. The less obscure is hinted at in the subtitles to the three volumes: *the production process of capital* (volume I), *the process of circulation* (volume II), *the process of capitalist production as a whole* (volume III). The order of the volumes is dictated by Marx's materialist conception of history. Labour is the essence of human life, and so production is the only appropriate starting-point for political economy. It is not, however, also the end of economic analysis, at least not for those societies where the products of labour are circulated as commodities. Hence the logical succession of volumes II and III.

This leaves a host of unanswered questions. Why does *Capital* I begin, not with production in general, but with the production of commodities? Why does it include a detailed discussion of one category of income

(wages), an admittedly provisional treatment of another (profit), and almost nothing on other income forms (interest, rent)? Why are volumes I and II cast in terms of labour values, and volume III in 'prices of production'?

To answer these questions is also to uncover the 'second structure' of *Capital*. As we have seen in section 4.7, Marx argues that the key to the scientific comprehension of capitalism lies in processes which are concealed from the economic actors themselves. Thus once he has uncovered the reality beneath the appearances, it is incumbent upon him to show the connection between the two: to show how appearances can be derived from the underlying reality. Since in developed capitalism profits accrue to the capitalist through the exchange phenomenon of 'prices of production', which cannot be assumed to equal values, Marx's theory of value and surplus value must be shown to underpin these relative prices and profits.

His analytical procedure is that which modern theorists have termed the method of 'successive approximation'. This consists of 'moving from the more abstract to the more concrete in a step by step fashion, removing simplifying assumptions at successive stages of the investigation so that theory may take account of and explain an ever wider range of actual phenomena' (Sweezy 1946:11). For Marx the 'abstract' consists of the underlying social relationships which he analyses through the concepts of value and surplus value and which are concealed by the 'phenomenal form' of appearances (exchange relationships, prices of production, and other market phenomena). Only by successively approximating the latter on the basis of the former through a series of analytical steps is it possible scientifically to comprehend the appearances for what they actually are (*Grundrisse*:100–1).

Marx attempts to show how the relations of material production in systems of commodity production underpin (both qualitatively and quantitatively) the ratios in which commodities exchange and the distributional shares received by the various types of producer and exploiter. In particular Marx is concerned to reveal how changes in the social relations of production lead to changes in these other factors, as the analysis moves through successive stages. He is especially interested in analysing the emergence of the capital–labour relation, since he sees capital as the 'all-dominating economic power' in bourgeois society (*Grundrisse*:107). Although historically some relations in bourgeois society – landed property, merchant and money-lending capital – existed prior to the development of the capitalist mode of production, it is only in terms of this mode that their place in bourgeois society can be understood (*Grundrisse*:107–8).

His procedure can best be understood in the light of a typology of historical stages outlined in the *Grundrisse*:

Relations of personal dependence . . . are the first social forms, in which human productive capacity develops only to a slight extent and at isolated points. Personal independence founded on *objective* (*sächlicher*) dependence is the second great form, in which a system of general social metabolism, of universal relations, of all-round needs and universal capacities is

formed for the first time. Free individuality, based on the universal development of individuals and on their subordination of their communal, social productivity as their social wealth, is the third stage. The second stage creates the conditions for the third (*Grundrisse*:158).

Here Marx combines the non-commodity-producing economic relations of precapitalist societies to form the first stage of the typology. Economic relations of *personal dependence* characterise this stage, which includes the dominant aspects of pre-capitalist systems of production. The feudal mode of production, for example, was characterised by the dependence of particular serfs on particular feudal lords. The commodity-producing economic relations of all societies (capitalist and pre-capitalist) are brought together to form the second stage. Here the relations of personal dependence which characterise the first stage are absent, and *objective dependence* is defined in terms of the alienating characteristics of commodity production. The third stage relates to post-capitalist society, and is based on free individuality (see section 2.4).

Marx's presentation of his theory in *Capital* does not start from the first stage of this typology. Instead he concentrates on the second stage, and shows how the third stage emerges from it. Marx has three related reasons for adopting this procedure. First, he wishes to concentrate on commodity production as such, because capitalism is the most developed type of this more general form. Second, he argues that many of the key features of capitalism actually developed from pre-capitalist forms of commodity production (see for example, *Grundrisse*:468, and *Capital* I:334). Third, and most important of all, he believes that these aspects of capitalism are analytically best developed out of, and in contrast to, pre-capitalist commodity production (*Grundrisse*:259; *Capital* III:14). Thus Marx concentrates on the second stage, and *Capital* I begins with a highly abstract (and rather difficult) account of commodity production in general, setting aside the specific characteristics of different modes of production of commodities. Only later does he move one step nearer to the concrete, dividing commodity production into a further series of stages starting with a theoretical model of pre-capitalist commodity production and building up from this successive stages of capitalist commodity production.

Marx recognises that pre-capitalist forms of commodity production are extremely diverse, as they exist in most actual pre-capitalist societies which are predominantly based on relations of personal dependence. Since, however, he is primarily concerned with the logical development of his theory, he works from a model of pre-capitalist commodity production which he terms *simple commodity production*. This theoretical construct incorporates certain empirical elements of pre-capitalist systems in a pure form. They are never found in historical reality in this form, because in Marx's analysis they are transformed and exaggerated in a certain way; but this is not done arbitrarily. They are transformed and exaggerated in such a way as to make a logically precise and consistent whole, and this is done with the purpose of developing from them successive models of capitalism.



Simple commodity production is a system in which there are no relations of personal dependence. Producers own their own means of production, and there is no wage-labour. There are no classes as in capitalism. Individual producers work on their own account, and sell their commodities on a competitive market. Marx argues that, in pre-capitalist commodity production, exchange ratios tend to equal – and in the theoretical model of simple commodity production do equal – their labour value ratios (*Capital* III:177–9). This is because the capital–labour relation is absent, so that the category of profit is also absent. Consequently the category of an average rate of profit does not exist. As we shall see below, it is the creation of an average rate of profit in developed capitalism which is responsible for the deviation of prices of production from values.

The next stage of the analysis is concerned with the introduction of the capital–labour relation, that is with capitalist commodity production.\* It is, however, a particular stage in the development of capitalism, both analytically and historically. It is an analytical stage built on the assumptions that there is no change in the technical basis of production and that competition is confined within industries, so that there is no mobility of capital between industries. Marx suggests that this is how, historically, capitalism emerged. It did not take over all branches of production simultaneously, but did so sequentially, so that capitalist competition originally developed within each industry. Moreover each industry that was taken over initially continued to rely on the technical basis of handicraft labour bequeathed to it by pre-capitalist commodity production, even though increased labour productivity resulted from the extension by the capitalists of the division of (handicraft) labour.

This logical stage corresponds to the historical stage which Marx terms *manufacture*. Given the assumptions, the only significant difference is the emergence of the capital–labour relation. Thus Marx argues that at this stage commodity exchange ratios again tend to equal – and in the pure model do equal – their labour value ratios. The only effect of the introduction of the capital–labour relation is the emergence of exploitation and surplus value, which forms the basis of the capitalists' profit.\*\*

The third stage builds on the second by introducing the social relations of free competition between all capitalists in all industries. This results in a tendency for profit rates to be equalised in all branches of production.

\* As we have seen, Marx argues that the actual emergence of the capital–labour relation is the product of a long historical process of primitive accumulation. However, he initially introduces the capital–labour relation without any historical analysis. It is only at the end of *Capital* I that he deals with primitive accumulation, which is the actual historical counterpart to his logical development from simple commodity production to the first stage of capitalism (see, for example, *Capital* I:623–4).

\*\* It is quite wrong to maintain that Marx assumes identical organic compositions in all industries throughout *Capital* I. Marx never makes such an assumption explicitly, nor is it implicit (see, for example, *Grundrisse*:761, and *Capital* I:306, 309, 405, where this is very clear).

When the ratio of constant to variable capital, the 'organic composition of capital', differs between industries, this means that commodity exchange ratios differ from their labour value ratios. The profit of each capitalist is calculated as a percentage of his total capital. It must then be true that in equilibrium (where profit rates are equal) the amount of profit received in each industry is no longer equal to the amount of surplus value extracted from the workers in that industry. It is here that Marx seeks to show how values are transformed into *prices of production* (equilibrium prices incorporating a uniform rate of profit), and surplus value into profit on total capital (see Chs 6 and 8). He argues that although neither values nor surplus values are observed by economic actors, who are only conscious of prices of production and profits, both prices of production and profits are determined by the social relations incorporated in the concepts of value and surplus value.

This third stage in the logical analysis is, Marx suggests, a theoretical model of an actual historical stage in the development of capitalism. He argues that the technical basis of manufacture gives way to that of *modern industry*, through an industrial revolution. Modern industry is characterised by factory production, power machinery and rapid technical change (*Capital* I:368, 382–3). What is more, it sees the development of capital mobility between industries and the establishment of the competitive forces making for the equalisation of the rate of profit throughout the economy (*Capital* II:Ch. X). It is mainly in terms of this stage that Marx works out his dynamic laws of motion of capitalism: the theories of the industrial reserve army, declining rate of profit, crises and monopolisation (*Grundrisse*:650–1; see also Pt. IV below).\*

The fourth stage of Marx's logical analysis of capitalism introduces the relationships embodied in landed property, and mercantile and money-lending capital. Marx's main concern here is to show the reallocation of surplus value which now takes place. Surplus value is no longer completely absorbed by the profits of the industrial capitalist, as in the second and third stages, for it now also provides the source of rent, commercial profit and interest. His analysis of this stage is somewhat limited. There is no systematic treatment of how landed property, merchant and money-lending capital affect the divergence of values from prices of production or how they affect the dynamic laws of motion worked out for the third stage of the analysis.

\* The complexity of *Capital's* structure is illustrated by noting that the most comprehensive discussion of 'modern industry' comes not (as might be expected) in the third volume, but in the first. Why? Two reasons suggest themselves. First, it was impossible for Marx to analyse the production of commodities in mid-Victorian capitalism without an exhaustive study of contemporary technology and its ramifications. Second, these implications were so fundamental and so far-reaching that they simply could not be ignored in what was the only major statement of Marx's political economy to be published in his lifetime. The 'two structures' of *Capital* are not isomorphic, and for Marx political pertinence could, on occasion, transcend either, or both.

This is due in part to Marx's inability to complete the writing of *Capital*, in part to the subordinate importance of these complications.

In this sequential manner of constructing more and more complex models, moving in general from the most fundamental to the least important, Marx sought to reproduce the concrete theoretically, and thereby cut through the mystifying veil of appearances so as to inform and revolutionise the proletariat.

### Reading guide

There are many concepts of equilibrium in use by different schools and sub-schools of economics. There are, for example, intertemporal, temporary and Keynesian equilibria. However, there is relatively little explicitly written upon the different concepts in themselves. Nevertheless Bradley and Howard (1982a, 1982b), Hahn (1973, 1977), Howard (1983) and Milgate (1979) do throw light on the specific nature of Marx's concept of equilibrium, and its similarities and differences with other concepts. We also return to this issue briefly in Chapter 10.

Marx introduces and explains his value categories in the first volume of *Capital*. Although many of his other works also do so, especially the *Grundrisse*, it is in *Capital* I that he is at his clearest. The *Grundrisse* is, however, useful in explaining the relational quality of Marx's concepts, as are Ollman (1971) and Sweezy (1946: Chs II and III). The latter is particularly important in stressing both the qualitative and quantitative roles of the value categories.

The theory of exploitation is only covered briefly in section 4.7, further treatment being provided in Parts II and III of this book. The clearest discussion by Marx himself is in *Capital* I: Pts II–V. The models used in *Capital* are discussed by Meek (1967: 93–112, 1973, 1976b) and by Morishima and Catephores (1975, 1976). Sweezy (1968) is also useful, especially on Marx's separation of 'manufacture' and 'modern industry'.

Methodology in general was a topic close to Marx's heart. However, he wrote relatively little explicitly on the topic of economic method, other than the Introduction to the *Grundrisse* which is reprinted in Carver (1975) with a commentary. Carver (1975) also contains Marx's *Notes on Adolph Wagner*, which deals with the method of his economics. On Marx's various plans of *Capital*, see Meek (1973: VII–XI), Rosdolsky (1977: Ch. 2) and Rubel (1981: Ch. 4).

## Part II

# Classical economics and Marx's critique

Marx was as well-versed in the literature of economics as any of his contemporaries. The scope of his reading is demonstrated by frequent references to earlier works, some famous and many obscure, throughout his economic writings, and by his detailed dissection of those of his predecessors whom he deemed to be of greatest importance in the three volumes of *Theories of Surplus Value*. His own economic theory, and the model of capitalism from which it was derived, reflect a continuous critique of classical political economy.

In Chapter 5 we look at classical economics through Marx's eyes, concentrating on the theory of value and the analysis of economic development in Adam Smith and David Ricardo. Marx's response to classical political economy is the subject of Chapter 6, in which his substantive and methodological objections are presented. In the course of this discussion the outlines of Marx's own theory will emerge, setting the scene for our critical analysis of his economics in Parts III and IV of the book.

# Classical political economy

## 5.1 Introduction

Marx defined *classical* political economy (which he identified with scientific economics) as a school of thought which originated in France with Boisguillebert (whose major work was published in 1695) and in England with his contemporary Petty, and culminated in the work of Adam Smith (1776) and David Ricardo (1817). Marx considered classical political economy to be distinguished from the *vulgar economics* which succeeded it both by its concentration on the reality rather than the appearances of capitalist society, and by its honesty and intellectual detachment. Sometimes Marx drew the contrast very sharply indeed. A particularly striking instance is found in the 1872 'Afterword' to volume I of *Capital*. Here Marx identified 1830 as the year of

the decisive crisis ... [in which] the class-struggle, practically as well as theoretically, took on more and more outspoken and threatening forms. It sounded the knell of scientific bourgeois economy. It was thenceforth no longer a question, whether this theorem or that was true, but whether it was useful to capital or harmful, expedient or inexpedient, politically dangerous or not. In place of disinterested inquirers, there were hired prize-fighters; in place of genuine scientific research, the bad conscience and the evil intent of apologetic (*Capital* I: 15).

This is an extreme statement. Generally Marx was rather less severe on post-Ricardian writers than in this purple passage, less disposed to attack their motives and more inclined to stress the superficiality (as against the apologetic nature) of vulgar economy. The dogmatic assertion that in 1830 there sounded the death-knell of classical political economy was equally untypical. Neither Marx nor Engels, however, paid very much attention to developments in bourgeois economic theory after 1830; the so-called 'marginal revolution' of the 1870s, for example, entirely passed them by. This was not the result of oversight or indolence. As we shall shortly see, classical and neoclassical economics belong to two radically different traditions. Marx, for all his profound criticisms of Ricardo and his predecessors, had very much more in common with the classical school, and would

have considered neoclassical theory to be as vulgar as the earlier supply and demand economics. In section 5.2 we investigate the methodological questions which arise in this context, touching on some of Marx's differences with Smith and Ricardo. Section 5.3 examines the theory of value in classical political economy, and section 5.4 explores the classical theory of capitalist development. In the concluding section 5.5 we return to the relationship between Marx, classical and neoclassical economics. Marx's substantive criticisms of the classical writers are examined in detail in Chapter 6.

## 5.2 Methodological issues

Most non-Marxian accounts of the relationship between Marx and classical political economy restrict their attention to technical questions of formal analysis. It will be clear from what we have said in Chapters 3 and 4 about the distinctive nature and overriding importance of Marx's *method* that such a treatment is inevitably inadequate. Marx studied classical economics so seriously precisely because he saw it as the first attempt, even if it was only an implicit one, to ground the study of economics in the specific social relations of capitalism. He argued that only in this way, and only if it pursued this essential methodological requirement rigorously, could technical economic analysis claim either relevance or validity.

This raises two basic issues: the nature of the essential problems which classical political economy faced, and the broad method of analysis which is used to solve them. Marx was in general agreement with the classical economists on the first issue, while on the second he was severely critical of their approach. We deal with these two questions in turn.

For both Marx and the classical writers, the fundamental question confronting political economy was that of the origins, magnitude and growth of the *economic surplus*. We introduced this crucial concept in section 1.3. It will be recalled that economic surplus is defined as the difference between the net product of society and the consumption requirements of the producers, or, in short, as the difference between social output and socially necessary input (see Fig. 5.1).<sup>\*</sup> This issue was vital to classical political economy for two reasons. Firstly, the method by which the surplus product is appropriated, or distributed between the various social classes, very largely determines the structure of social relations in any historical epoch

<sup>\*</sup> There is an ambiguity in the definition of socially necessary input. In addition to the individual consumption requirements of the working class, no society can function without certain essential collective expenditures usually undertaken by the state and financed by taxation (including health services, education and social security). Some or all of the expansion in the means of production can also be regarded as necessary, or so Marx suggested in his *Critique of the Gotha Programme* (SW III:16–17). He seems not to have intended that these items should be excluded from the surplus product. Certainly accumulation is financed out of surplus value, and what little Marx says about the incidence of taxation indicates that it falls upon property income rather than wages. This question is further considered in section 7.5.

*Gross product*

less means of production used up  
 equals net product.

*Net product*

less necessary consumption requirements of the producers  
 equals surplus product (economic surplus).

*Example: A corn model:*

Harvest		1,000 tons
less	replacement of seed-corn	<u>– 200 tons</u>
equals	net product	<u>800 tons</u>
less	necessary consumption requirements of the producers	<u>– 500 tons</u>
equals	surplus product (economic surplus)	<u>300 tons</u>

Fig. 5.1 Gross product, net product and surplus product

(see above, section 1.3). In a capitalist society, Marx and the classical economists agreed, it accrues in its entirety to property owners in the form of profit and rent. Secondly, their primary and shared concern was with the pace of economic change. Now it follows from the definition of the surplus product that it constitutes the only source of accumulation and growth, since the remaining components of the total (gross) product of society are sufficient only to permit output to be maintained at a constant rate over time. For this reason an interest in the 'laws of motion of capitalist society' (*Capital* I:10) demands that close attention be paid to the share of the economic surplus in total output.

Readers who are familiar only with modern orthodox economics may well find this perspective rather strange. Neoclassical economics focuses upon the allocation of given resources between competing ends, subject to the constraints imposed by property rights and technical possibilities. No use is made of the notion of economic surplus; economic growth is not central to the analysis; and the relevance and interest of the distribution of income between labour and property is often explicitly denied. In this tradition it is exchange rather than production which receives theoretical priority, and market transactions instead of underlying social relations which dominate the analysis. Some of the elements of the neoclassical approach can indeed be found in the writings of Smith and Ricardo, but they play a subordinate role. For the most part classical political economy belongs to the surplus, rather than the supply and demand, tradition; and so does Marx.

The substantive content of classical economics was the result of its concern with the economic surplus in a capitalist economy. The analysis of commodity prices, for example, was undertaken less as a significant problem in its own right (as it would be regarded by neoclassical theorists), and more as a necessary step to the measurement of the surplus product and an understanding of profit and rent. If we are dealing with a single-commodity

world, in which only (say) corn is produced and which only corn is employed as a means of production, the measurement of the economic surplus is very simple (see Fig. 5.1). Once a variety of commodities is produced the problem is much more complicated, since the *values* of the various items which make up the different parts of total output must now be assessed. A theory of value, which was superfluous when only one commodity was involved, is now vital. The classical labour theory of value attempted to meet this need. Marx, too, devoted much of his theoretical energies to the refinement of a consistent labour theory of value and its use in the analysis of economic growth. As we shall see in Chapter 6, he argued that these issues, although correctly posed by the classical economists, had not been adequately resolved.

On the subject of the method adopted by the classical economists, Marx was much more critical. In the first place, his view of society differed markedly from even the more sophisticated versions presented by the classical economists. Smith and Ricardo used a three-class model of capitalism, with landlords, capitalists and workers enjoying equal theoretical status. Marx reduced the landlords to a minor parasitic appendage of the capitalists, abstracted from all intermediate (*petit bourgeois*) groups, and emerged with a model of a society polarised between capitalists and wage-labourers. This was reflected in his treatment of social conflict. Class conflict, present only obliquely in Smith, was of course fundamental to Marx. But it was a different type of conflict from that of Ricardo, for whom the industrial struggle between capitalist employers and their workers played a subsidiary role in a more basic clash of interests between the landlords and the rest of society (see below, section 5.4.2). Agriculture was never for Marx the prime mover in the economy, as it had been for Ricardo. Indeed the whole of the first two volumes of *Capital*, and much of the third, explicitly abstract from 'landed property'.

Marx's view of capitalist society differed from that of the classical economists in other ways. He distinguished two stages in the development of secondary industry. The first stage, which he termed *manufacture*, was based on traditional skills employed without significant advances in the mechanisation of production, but with the division of labour developed to a higher degree than in previous eras. But 'handicraft skill is the foundation of manufacture' (*Capital* I:367). The second stage is *modern industry*, in which factory production is predominant, and mechanisation increases rapidly. Industrial concentration, continuous technical progress and the formation of a large pool of unemployed workers, who constitute the industrial reserve army (*ibid.*:437), are all features of this second stage. 'Modern Industry never looks upon and treats the existing form of a process as final. The technical basis of that industry is therefore revolutionary, while all earlier modes of production were essentially conservative' (*ibid.*:486). Marx argued that classical political economy had concentrated its analysis on manufacture, and had largely ignored modern industry. This neglect had important consequences for the analysis of capitalist dynamics, which could



not fully be understood without a comprehension of modern industry.

Despite these differences, Marx respected classical political economy for having uncovered what he considered to be the historically specific relations of capitalist commodity production in its conception of the economic surplus, the class structure of production, and the categories associated with the labour theory of value. But his praise was qualified, as may be seen in an early assessment of the Ricardian theory of value:

Ricardo's investigations are concerned exclusively with the *magnitude of value*, and regarding this he is at least aware that the operation of the law depends on definite historical pre-conditions. He says that the determination of value by labour-time applies to 'such commodities only as can be increased in quantity by the exertion of human industry, and on the production of which competition operates without restraint'. This in fact means that the full development of the law of value presupposes a society in which large-scale industrial production and free competition obtain, in other words, modern bourgeois society. For the rest, the bourgeois form of labour is regarded by Ricardo as the eternal natural form of social labour. Ricardo's primitive fisherman and primitive hunter are from the outset owners of commodities who exchange their fish and game in proportion to the labour-time which is materialized in these exchange-values. On this occasion he slips into the anachronism of allowing the primitive fisherman and hunter to calculate the value of their implements in accordance with the annuity tables used on the London Stock Exchange in 1817 (*Critique*:60)

The passage continues with praise for Ricardo's 'theoretical acumen, 'although encompassed by this bourgeois horizon'.

Thus Marx criticised even Ricardo, 'who gave to classical political economy its final shape' (*Critique*:61), for his failure to apply his own methodological principles consistently. Ricardo's tendency to see capitalism as an 'eternal, ahistorical' form of social production, and hence to view wage-labour as 'the eternal natural form of social labour' had serious consequences for his theoretical work. It led him to fall back on universal laws of nature to explain phenomena which resulted, in Marx's view, from the specific organisation of capitalist society, and were thus as transient as capitalism itself. This is especially clear in Ricardo's theory of wages and in his account of the falling rate of profit (below, section 5.4.2).

### 5.3 The classical theory of value

As we have seen, two related problems formed the core of classical political economy. One concerned the origins and size of the economic surplus in the capitalist mode of production. The other was the perfection of a measure of value in terms of which both gross and net output and the surplus product could be quantified. In this section we look first at the beginnings of the theory in the writings of Mercantilist and Physiocratic economists in the period before the publication of Smith's *Wealth of Nations*. We then consider the vacillations of Adam Smith, and conclude with an assessment of Ricardo's contribution and his alleged abandonment of the

labour theory of value in his *Principles* (first published in 1817). The reader should be warned that we shall ignore many aspects of a complex and sophisticated body of theory in order to concentrate on what – following Marx – we believe to be the essence of the classical theory of value. We return in section 5.5 to the issues that this raises.

### 5.3.1 Mercantilism

The Mercantilist analysis of value and profit can only be understood as a product of early British capitalism. The most dynamic and profitable sector of the late seventeenth- and early eighteenth-century British economy was foreign trade. Commerce and colonisation offered the largest and the quickest profits, and provided the major stimulus to economic growth. Industrial capital was a junior partner, and the factory system was almost completely unknown. However, Britain was much less an agricultural nation than any of her international rivals, and the economics of Mercantilism reflected very closely the problems and interests of the growing class of commercial capitalists. The economy was a rapidly growing one, in which an investible surplus was being generated at an increasing pace and accumulated most notably in the trading sector. It was thus entirely understandable, if fundamentally mistaken, for the Mercantilists to locate the source of economic surplus in this sector.

At the same time they came to view the value of commodities as determined by the sum of the costs of all the different types of labour embodied in them. Such a ‘wage-cost’ theory of value could not be reconciled with the existence of non-wage incomes. If the value of a commodity depended solely on the labour costs incurred in its production, it could not both: (i) be sold at its value; and (ii) yield incomes to the capitalists (and landlords) who controlled its production. How, then, could the existence of profit (as well as interest and rent) be rendered consistent with this crude labour theory of value? We shall see in several places below that this is the most fundamental problem to be confronted by the adherents of a labour theory of value, and it is one which Marx found to be unsolved even by the most advanced classical economists.

The Mercantilists’ answer to this question was that profit arose, not from the process of production, but in the act of exchange. Commodities were sold at prices higher than their labour values, and the difference was the seller’s profit. Profit was the result of *unequal exchange*. As we shall see, both the Physiocrats and the later English classical economists rejected this view, but it recurred well into the nineteenth century. Marx was later to criticise both Proudhon and Malthus for similar views (*Poverty of Philosophy*:Ch. 1; *TSV III*:Ch. 1).

The issues are raised very clearly in Marx’s criticism of the French writer Destutt de Tracy:

[Capitalist] A may be clever enough to get the advantage of B or C without their being able to retaliate. A sells wine worth £40 to B, and obtains from him in exchange corn to the value of £50. A has converted his £40 into £50,

has made more money out of less, and has converted his commodities into capital. Let us examine this a little more closely. Before the exchange we had £40 worth of wine in the hands of A, and £50 worth of corn in the hands of B, a total value of £90. . . . The value in circulation has not increased by one iota, it is only distributed differently between A and B. What is a loss of value to B is surplus-value to A; what is 'minus' to one is 'plus' to the other. The same change would have taken place, if A, without the formality of an exchange, had directly stolen the £10 from B. The sum of values in circulation can clearly not be augmented by any change in their distribution, any more than the quantity of the precious metals in a country by a Jew selling a Queen Anne's farthing for a guinea. The capitalist class, as a whole, in any country, cannot over-reach themselves.

Turn and twist then as we may, the fact remains unaltered. If equivalents are exchanged, no surplus-value results, and if non-equivalents are exchanged, still no surplus-value. Circulation, or the exchange of commodities, begets no value (*Capital* I:162–3; see also *Capital* II:484–92, and *TSV* I:278–9).

In modern language Marx is arguing here that the exchange of commodities which are not equivalent in value – that is, unequal exchange – is a zero-sum game, in which one party's gain is the other party's loss. If one capitalist 'gets the advantage' over another, the outcome is similar to that of a theft. One gains, the other loses, and on balance the two effects must cancel out. Capitalists may obtain more than the value of their commodities when they sell them, but in aggregate they will have to pay just as much more for those commodities which they purchase.\* This can be seen in terms of Marx's account of the circulation process (above, section 4.6) where, at the level of the entire economy,  $M = C$  and  $C' = M'$ , even though for individual transactions this need not always be the case.

How, then, can profits be explained? The Mercantilists, while in effect accepting the validity of Marx's argument for internal trade, pointed out that it does not apply to international commerce. One nation may enrich itself by the systematic exploitation of its trading 'partners' through unequal exchange, and indeed this possibility forms one important strand in modern theories of imperialism. Thus the Mercantilists came to view *foreign* trade as the source of profit, and thus of economic growth. Protection, rigid control over the economic activities of the colonies, and a desire for balance of payments surpluses followed as necessary corollaries. Without them, Mercantilist theory implied, a capitalist economy could not prosper.

Other writers rejected this approach, and instead located the source of the economic surplus in production rather than in exchange. Although capitalism has not historically been confined to a closed economy, there is no obvious reason in logic why profits (and, by implication, interest and rent) should be impossible without foreign trade. If the surplus arose in the process of production, and was merely 'realised' in the act of exchange, there

\* Note that this argument, like that of Marx in the quoted passage, considers only exchanges between two capitalists. Market transactions between capitalists and workers pose more serious difficulties, which will be outlined in sections 7.2 and 8.4.

would be no need to resort to as narrow a view of its origins as had the Mercantilists. And it might then be possible to reconcile the existence of incomes from property with adherence to a labour theory of value and to the view that commodities were in general sold at, rather than above, their labour values.

Smith and Ricardo, followed by Marx, developed this line of reasoning to the point where profit was seen as the result of production in general. But the third alternative to the Mercantilist argument, that of those French writers known as the Physiocrats, represents an intermediate position of considerable interest. For the Physiocrats the surplus was derived from *agricultural* production, and from agricultural production alone. Profit in non-agricultural activities was explained, much as it had been by the Mercantilists, as the outcome of exploitation of the farmers by the industrial capitalists in transactions involving unequal exchange (see Fig. 5.2).

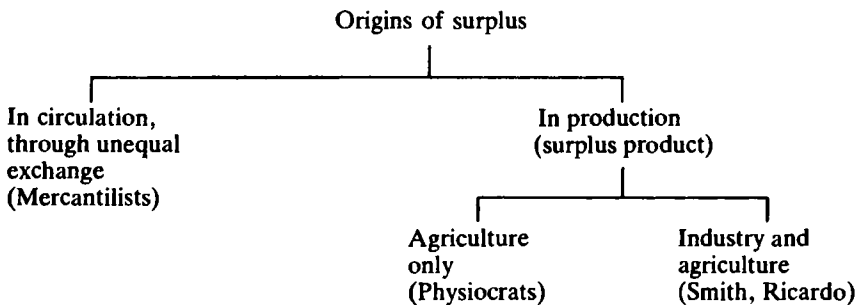


Fig. 5.2 Explanations of surplus in classical political economy.

### 5.3.2. *The Physiocrats*

The Physiocrats argued that agriculture was the only form of productive activity, since its surplus product was directly visible as a *physical* excess of corn output (the harvest) over corn input (seed and food for farm workers). Marx cited a curiously convincing summary of the Physiocrats' argument:

Give the cook a measure of peas, with which he is to prepare your dinner; he will put them on the table for you well cooked and well dished up, but in the same quantity as he was given, but on the other hand give the same quantity to the gardener for him to put into the ground; he will return to you, when the right time has come, at least fourfold the quantity that he had been given. This is the true and only production (TSV I:60, citing F. Paoletti, *I verri mezzi di render felici le società*, 1722, p. 197).

Industry was thus seen as 'sterile', in the sense that it could not generate a quantitative surplus of output over input like agriculture, but merely gave rise to a qualitative change in the raw materials supplied by agricultural activity.

Any surplus accruing to industry must then result from the sale of manufactured goods to the farmers at prices higher than their values, or the

purchase of farm produce for less, through unequal exchange. For the Physiocrats, industrial profit represented a deduction from the surplus available for productive use in farming. This explains their insistence on *laissez-faire*, which amounted less to a charter of freedom for industrial capital (as it was intended, for example, by Adam Smith) than to a demand for the abolition of state protection for what was seen as a monopolistic and essentially parasitic manufacturing sector.

This was not a theoretical apparatus likely to survive the emergence of a large, highly competitive and obviously dynamic industrial capitalism, where wage-goods included industrial commodities like textiles. Once the Industrial Revolution had begun, Adam Smith could reasonably extend the production of an economic surplus 'to all spheres of social labour' (TSV I:85). It then became possible to give a different analysis of the origins of industrial profit, which both classical political economy and Marx saw as the most important form taken by the surplus product. Their argument did not require, as a necessary condition for positive profits, that manufactured commodities be sold in aggregate at prices greater than their labour values. Profit was thus disentangled from unequal exchange.

Marx began his discussion of the Physiocrats with a critical assessment of their model of society. It displayed, he argued,

the character of a bourgeois reproduction of the feudal system, of the dominion of landed property; and the industrial spheres within which capital first develops independently are presented as 'unproductive' branches of labour, mere appendages of agriculture (TSV I:49–50).

This could be explained by the time (the mid-eighteenth century) and the place (France) in which they wrote:

the Physiocratic system is presented as the new capitalist society prevailing within the framework of feudal society. This therefore corresponds to bourgeois society in the epoch when the latter breaks its way out of the feudal order. Consequently, the starting-point is in France, in a predominantly agricultural country, and not in England, a predominantly industrial, commercial and seafaring country. In the latter country attention was naturally concentrated on circulation . . . (*ibid.*:50).

Although the Physiocrats did focus upon production, their system had a fundamental defect:

it did not see that value in general is a form of social labour and that surplus-value is surplus-labour. On the contrary, it conceived value merely as use-value, merely as material substance, and surplus-value as a mere gift of nature, which returns to labour, in place of a given quantity of organic material, a greater quantity. On the one hand, it stripped rent – that is, the true economic form of landed property – of its feudal wrapping, and reduced it to mere surplus-value in excess of the labourer's wage. On the other hand, this surplus-value is explained again in a feudal way, as derived from nature and not from society; from man's relation to the soil, not from his social relations (*ibid.*:52).

Because the surplus product in industry could not be identified as a 'gift of nature' in such a direct and obvious way, the Physiocrats could

establish no coherent analysis of industrial profit under competitive conditions and without unequal exchange. What then had they achieved? According to Marx 'the Physiocrats transferred the inquiry into the origins of surplus value from the sphere of circulation into the sphere of direct production, and thereby laid the foundation for the analysis of capitalist production' (*TSV* I:45). They had also highlighted the distinction between productive and unproductive activity, which proved to be most important for classical and Marxian theory. If surplus value originates in production rather than in exchange, it is vital to be clear as to what exactly constitutes 'production'. If trading or money-lending is to be regarded as productive, then all the problems thrown up by Mercantilist theory may be encountered again. It is to the Physiocrats' credit that they did distinguish, albeit incorrectly, between 'productive labour' (in agriculture) and 'unproductive labour' (in all other forms of economic activity). Some of the essential groundwork for a coherent theory of value and exploitation had thus been done by the Physiocrats. They had raised some of the most significant theoretical problems later to be faced by classical political economy, and by Marx.

### 5.3.3 *Adam Smith*

How far was Adam Smith able to build on these foundations? As we have seen, Smith accepted the Physiocrats' argument that the surplus arose in production rather than in exchange. He went beyond them in maintaining that the surplus product was not restricted to agriculture; indeed, industry played the major role in his treatment of productive and unproductive labour. As Marx observed, Smith attributed the economic surplus to the activity of social labour, and not to the bounty of nature (*TSV* I:85). In this way Smith was the first economist to base a labour theory of value explicitly on a particular analysis of the nature of social relations.

Smith articulated the labour theory of value in his famous example of the deer and the beavers:

In that early and rude state of society which preceeds both the accumulation of stock and the appropriation of land, the proportion between the quantities of labour necessary for acquiring different objects seems to be the only circumstance which can afford any rule for exchanging them for one another. If among a nation of hunters, for example, it usually costs twice the labour to kill a beaver which it does to kill a deer, one beaver should naturally exchange for or be worth two deer. It is natural that what is usually the produce of two days or two hours labour, should be worth double of what is usually the produce of one day's or one hour's labour (Smith 1776:53).

He proceeded to locate the origins of property incomes in the development of capitalism:

As soon as stock has accumulated in the hands of particular persons, some of them will naturally employ it in setting to work industrious people, whom they will supply with materials and subsistence, in order to make a profit by the sale of their work, or by what their labour adds to the value of the

materials. In exchanging the complete manufacture either for money, for labour, or for other goods, over and above what may be sufficient to pay the price of the materials, and the wages of the workmen, something must be given for the profits of the undertaker of the work who hazards his stock in this adventure. The value which the workman add to the materials, therefore, resolves itself in this case into two parts, of which the one pays their wages, the other the profits of their employer upon the whole stock of materials and wages which he advanced. . . . In this state of things, the whole produce of labour does not always belong to the labourer. He must in most cases share it with the owner of the stock which employs him (*ibid.*:54–5).

Here Smith began with a model of simple commodity production, in which productive activity was carried on for exchange rather than to satisfy the personal consumption needs of the producer, but in which capitalist class relations were absent. In this case Smith implies that not only would all income accrue to the producers, but the ratios at which the different commodities exchanged would depend solely on the ratios of labour embodied in them, or required for their production. In this 'early and rude state of society' profit and rent did not exist, and the labour theory of value applied without modification.

Smith then considered the consequences of the emergence of capitalist class relations within such a society. Ownership of the means of subsistence and the means of production passes from the hands of the producers themselves into the possession of a minority of private individuals. Neither technology nor the means of production have changed; only their ownership has altered. The only difference between the two situations is thus the change in social structure. The new *class monopoly* over the means of production (to use Marx's term) gives rise to a separate category of income, unknown to simple commodity production: the capitalists now obtain *profit* as a result of their ownership of what may now be termed capital. Marx regarded Smith's analysis as a major theoretical advance. 'Thereby', he wrote, 'he has recognised the true origin of surplus value' (*TSV* I:80). In the process, however, Smith was driven to reject the labour theory of value as inapplicable to a capitalist economy. The two sentences following on from the passage just quoted make this very clear:

Neither is the quantity of labour commonly employed in acquiring or producing any commodity, the only circumstance which can regulate the quantity which it ought commonly to purchase, command, or exchange for. An additional quantity, it is evident, must be due for the profits of the stock which advanced the wages and furnished the materials of that labour (Smith 1776:55).

A similar problem is posed with the emergence of rent when land becomes the property of a distinct class of landlords. Smith's celebrated conclusion is obviously inconsistent with the theory of value which he had developed in the context of non-capitalist 'simple' commodity production:

The real value of all the different component parts of price, it must be observed, is measured by the quantity of labour which they can, each of

them, purchase or command. Labour measures the value not only of that part of price which resolves itself into labour, but of that which resolves itself into rent, and of that which resolves itself into profit. In every society the price of every commodity finally resolves itself into some one or other, or all of those three parts; and in every improved society, all the three enter more or less, as component parts, into the price of the far greater part of commodities (*ibid.*:56).

Thus Smith concluded that the very existence of property incomes invalidated the labour theory of value. In effect the labour *embodied* in a commodity was now less than the amount of labour which it could *command* (that is, the quantity of labour for which it could be exchanged). Suppose, for example, that two hours of labour are necessary to trap a beaver, and that the hourly wage is £1. The 'labour-embodied' value of a beaver, expressed in terms of money, is then £2. If the capitalist's profit is 50p per beaver, the skin will sell for £2.50. But at the prevailing wage £2.50 will buy two and a half hours of labour, so that the 'labour-commanded' value of a beaver skin exceeds its 'labour-embodied' value.

In effect this is the very same problem which confronted the Mercantilists (above, section 5.3.1). They attempted to solve it by retaining a rather primitive labour theory of value and arguing that, in general, profits arose because commodities were sold at prices in excess of their (labour-embodied) values. In other words, profits rested upon unequal exchange. Smith rejected this conclusion, and was therefore forced to reject also the labour theory of value itself.\* He replaced it with a simple cost of production theory in which rent and profit are viewed as costs, identical in analytical status to wages, and form a component part of the 'natural prices' of commodities. Commodities are sold at their natural prices, which yield positive profits to the capitalist and rent to the landlord. But these prices are *not* labour values. Labour now figures as only one of three constituent parts of the costs of production, and as a convenient *measure of price*. It is no longer seen as the only *source of value*.

The change is a major one. Property incomes, instead of being derived from the labour used to produce commodities, are now seen as costs additional to it. They become a component part of 'natural price', which is no longer explained in terms of embodied labour alone. Smith's 'adding-up theory of value' is in principle very similar to the Marshallian theory of long-run equilibrium price, and is quite alien to the labour theory of value. This is why Marx distinguished between the 'esoteric' and the 'exoteric part of

\* As we shall see (below, section 6.2.2), Marx would resolve this difficulty in the following manner. The source of profit in the example in question is the surplus labour performed by the workers: of each 2 1/2 hours of work, only 2 are paid for, and the remaining half-hour is unpaid (or surplus). The problem arises because labour too appears to be sold at its labour value, and the source of the surplus labour is then a mystery. But it is the worker's *labour power* which is sold to the capitalist, and there is no contradiction between the sale of *this* commodity at its labour value, and the performance of surplus labour which is appropriated (as surplus value) by the capitalist.



[Smith's] work', (TSV II:166; see also *Capital* II:223, 382). In particular, Marx emphasised a theme which ran through all his work on the theory of value: the low level of abstraction (and thus of theoretical significance) to be attributed to the operation of competition:

Smith himself moves with great naivete in a perpetual contradiction. On the one hand he traces the intrinsic connection existing between economic categories or the obscure structure of the bourgeois economic system. On the other, he simultaneously sets forth the connection as it appears in the phenomena of competition and thus as it presents itself to the unscientific observer just as to him who is actually involved and interested in the process of bourgeois production. One of these conceptions fathoms the inner connection, the physiology, so to speak, of the bourgeois system, whereas the other takes the external phenomena of life, as they seem and appear and merely describes, catalogues, recounts and arranges them under formal definitions. With Smith both these methods of approach not only merrily run alongside one another, but also intermingle and constantly contradict one another (TSV II:165).

At one moment Smith was developing a labour theory of value, and also of surplus value, which had pretensions to scientific rigour and was therefore not at all obvious. The next moment he was merely reflecting the appearance, that the price of a commodity is simply the sum of its costs of production. The capitalist, who pays wages and rent and makes a profit, naturally assumes that the price of the commodity is simply the sum of those costs, and that nothing more can be said about it. Hence the stress in Smith's 'exoteric' moments on the importance of exchange and of competition, and the relative devaluation of conditions of production in the explanation of the economic surplus.

### 5.3.4 *David Ricardo*

Ricardo followed the path that Smith had rejected. Indeed, Ricardo was more forthright in his statement of the labour theory of value, brusquely dismissing the alternatives. He distinguished carefully between use value and exchange value, and denied that the use value of a commodity was relevant to a discussion of its value in exchange (Ricardo 1821:275–6). Unlike Adam Smith, he was also consistent in relegating competition to a subsidiary role. For Ricardo competition brings the *market prices* of commodities into line with their *natural prices*, where the latter are determined outside the competitive process by the quantities of embodied labour required to produce them (see for example Ricardo 1821:92).

One of the fundamental propositions of the Ricardian system is important here. This is the claim that a general rise in wages alters the distribution of income and *not* the overall price level. It reduces profits, but does not increase prices. Bear in mind that for Ricardo both prices and wages are expressed in terms of money, where money ('gold') is itself a produced commodity with a determinate labour value of its own. Ricardo's argument may then be contrasted with Adam Smith's position. In Smith's cost of production theory of price, an increase in wages represents a rise in

costs. Since one of the component parts of the natural prices of commodities has risen, prices in general must also rise. Ricardo was a forceful critic of this seemingly innocuous proposition. A general wage increase can have only one effect consistent with the labour theory of value, and that is a reduction in profits. The theory states that the equilibrium price of a commodity depends solely on the labour time which is required to produce it. A wage increase has no effect upon embodied labour requirements. Therefore commodity values will remain unaffected by wage increases, as will equilibrium prices (Ricardo 1821:29–30).

In Ricardo's theory of rent his break with Smith was equally apparent. For Smith, rent was a component part of value, and this formed one of the determinants of the value of a commodity. Ricardo opened his chapter on rent with a very significant statement of intent:

It remains however to be considered, whether the appropriation of land, and the consequent creation of rent, will occasion any variation in the relative value of commodities, independently of the quantity of labour necessary to production (Ricardo 1821:67).

His theory of rent provided Ricardo with the necessary means for giving a negative answer to this important question. He took corn as the representative agricultural output. Corn is produced under a variety of conditions, depending on the fertility of the soil (which sets the so-called 'extensive margin' of cultivation) and on the inputs of labour and means of production which are employed (fixing the 'intensive margin'). Ricardo argued that the value of corn is determined by the amount of labour needed to produce it under the *least favourable* conditions, that is, at the margin where no rent is paid. Rent is thus a pure surplus, and does not form a component part of the value of corn:

If the high price of corn were the effect, and not the cause of rent, price would be proportionally influenced as rents were high or low, and rent would be a component part of price. But that corn which is produced by the greatest quantity of labour is the regulator of the price of corn; and rent does not and cannot enter in the least degree as a component part of its price (*ibid.*:77).

Adam Smith was quite wrong to contend otherwise.

We shall return to Ricardo's theory of rent when we come to discuss the classical theory of economic development, in which it played a vital part (below, section 6.3.1). For the moment we return to his theory of value, and in particular to his concern that the theory might no longer apply in advanced capitalist economies. It was to this question that much of the first chapter of the *Principles* was devoted. The problem is this. In free competition the rate of profit on capital tends to become equal in all industries. But industries differ in the ratio of capital to labour that they employ, and also in the ratio of fixed to circulating capital; thus they differ, too, in the ratio of profits to wages. Ricardo concluded (*ibid.*: 32) that the unmodified labour theory of value applies only if no capital whatever is used, or if input proportions and the durability of capital happen to be the same in all sectors

of the economy. Except under these improbable conditions, the relative equilibrium prices of commodities may change while the quantities of labour embodied in them remain unchanged. For example, a general increase in wages tends to raise the prices of goods and services produced by 'labour-intensive' industries relatively to those produced by 'capital-intensive' sectors. Although there has been no change in the amounts of labour required (directly and indirectly) to produce commodities, relative prices are altered by shifts in the distribution of income.

To illustrate this proposition, consider the following extremely simple example (which forms part of a larger model used below, section 6.2.3). There are two industries, one producing steel and the other corn. In the first, 80 tons of steel and 40 days of direct labour are required for an output of 120 tons of steel. In the second industry, 10 tons of steel and 50 days of labour are needed to give 60 quarters of corn. If both the wage rate and the profit rate are equal in the two sectors, then two simultaneous equations can be written:

$$(80p_1 + 40w)(1 + r) = 120p_1 \quad [5.1]$$

$$(10p_1 + 50w)(1 + r) = 60p_2 \quad [5.2]$$

Equation [5.1] states that the receipts of capitalists producing steel ( $120p_1$ ) must equal the costs of production ( $80p_1 + 40w$ ) plus profits at  $100r$  per cent upon the capital employed (which, assuming for convenience that there is no fixed capital, is equal to the costs, that is, to  $80p_1 + 40w$ ). Equation [5.2] similarly states that receipts from the sale of corn must equal total costs plus profits at the common rate.

There are two equations, but four unknowns:  $p_1$  (the price of steel),  $p_2$  (the price of corn),  $w$  (the wage rate) and  $r$  (the rate of profit). One unknown can be eliminated by dividing both sides of each equation by  $p_2$ , (taking corn as the numeraire) to give

$$(80p_1/p_2 + 40w/p_2)(1 + r) = 120p_1/p_2 \quad [5.3]$$

$$(10p_1/p_2 + 50w/p_2)(1 + r) = 60 \quad [5.4]$$

Here  $p_1/p_2$  is the price of steel in terms of corn, or the amount of corn which will exchange for one ton of steel;  $w/p_2$  is the wage in terms of corn, or – since workers do not consume steel – the real wage; and  $r$  remains the rate of profit. If we fix one of these three variables, equations [5.3] and [5.4] can be solved for the other two.

Suppose that  $r = 0$ , so that our economy is one of simple commodity producers. Then  $p_1/p_2 = 1$ , and  $w/p_2 = 1$ . Relative prices are equal to the ratio of labour values (it will be demonstrated below, in section 6.2.3, that the value of gold = the value of corn = unity). Now introduce capitalist social relations, so that profits are positive. If the profit rate equals 17.5 per cent, equations [5.3] and [5.4] yield the solutions  $w/p_2 = 3/4$  and  $p_1/p_2 = 1.356$ . A further increase in  $r$  to 33.3 per cent gives an even lower real wage

( $w/p_2 = 1/2$ ) and an even larger increase in the relative price of steel ( $p_1/p_2 = 2$ ). As  $r$  rises, the real wage falls, and the relative price of the more 'capital-intensive' commodity (steel) goes up, diverging more and more from its relative labour value.

It is not easy to judge just how seriously Ricardo took this as an objection to the labour theory of value. Certainly he argued that its quantitative impact would be slight: 'The greatest effects which could be produced on the relative prices of these goods from a rise in wages, could not exceed 6 or 7 per cent' (ibid.:36). Moreover he continued until the end of his life to search for an embodied labour measure of 'absolute value'. But he did make a significant retreat between the first and third editions of the *Principles*. He had begun by using Smith's model of simple commodity production to show the historical emergence of profits as capitalist property relations developed in a society previously free of them. In a controversy with Malthus, Ricardo became aware that this argument contained a serious ambiguity.

The problem is very simple. We have seen that Ricardo came to realise that his statement of the labour theory of value was inadequate when there were significant differences between industries in 'capital intensity' or in the durability of capital. But there is no analytical reason to suppose that, even in the 'early and rude state of society' discussed by Smith, these differences might not be substantial. And, on Ricardo's own reasoning, if deer-hunting had a substantially higher ratio of means of production to labour than beaver-hunting, deer and beavers would no longer exchange at ratios determined solely by the amounts of labour required to produce them. The labour theory of value would then be invalid despite the absence of capitalist class relations.

Thus it seemed, even in simple commodity production, that Ricardo's own arguments had undermined the coherence of the labour theory of value. In the third edition of the *Principles* Ricardo no longer made much of the 'early and rude state of society'. As early as 1818, in a letter to James Mill, he had made his new position clear:

In opposition to [Torrens], I maintain that it is not because of this division into profits and wages, – it is not because capital accumulates, that exchangeable value varies, but it is *in all stages of society*, owing only to 2 causes: one the more or less quantity of labour required, the other the greater or less durability of capital: – that the former is never superseded by the latter, but is only modified (Ricardo 1816–18:377; stress added).

Here Ricardo finally abandoned the model of simple commodity production in the face of these considerations. This has serious implications for his analysis of value. Instead of one, there are now *two* causes of changes in commodity prices, and this is true 'in all stages of society'. Ricardo's continued endorsement of the labour theory of value coexisted uneasily with this conclusion.

## 5.4 The classical theory of development

It was almost universally accepted in classical political economy that the long-run trend in the rate of profit on capital was a downward one. The search for the factors underlying the fall in the rate of profit was an important element in Adam Smith's analysis, and it became the corner-stone of the Ricardian theory of economic development.

### 5.4.1 Adam Smith

At one stage Smith concluded that the combination of rapid capital accumulation with vigorous competition was sufficient to bring about a decline in the rate of profit:

The increase of stock, which raises wages, tends to lower profit. When the stocks of many rich merchants are turned into the same trade, their mutual competition naturally tends to lower its profit; and when there is a like increase in stock in all the different trades carried on in the same society, the same competition must produce the same effect in them all (Smith 1776:98).

This argument brings to mind the Mercantilist argument that profit arises through unequal exchange. If a labour theory of value is adopted, however, the role of competition is the more modest one of equalising through the economy a rate of profit determined by other factors, operating at a higher level of abstraction. Thus Ricardo, like Marx, rejected Smith's argument as an explanation of the tendency for the rate of profit to fall.

Later in the *Wealth of Nations* (*ibid.*:375), Smith modified his argument:

As capitals increase in any country, the profits which can be made by employing them necessarily diminish. It becomes gradually more and more difficult to find within the country a profitable method of employing any new capital. There arises in consequence a competition between different capitals, the owner of one endeavouring to get possession of that employment which is occupied by another. But upon most occasions he can hope to justle that other out of this employment, by no other means but by dealing upon more reasonable terms. He must not only sell what he deals in somewhat cheaper, but in order to get it to sell, he must sometimes too buy it dearer. The demand for productive labour, by the increase of the funds which are destined for maintaining it, grows every day greater and greater. Labourers easily find employment, but the owners of capitals find it difficult to get labourers to employ. Their competition raises the wages of labour, and sinks the profits of stock. But when the profits which can be made by the use of a capital are in this manner diminished, as it were, at both ends, the price which can be paid for the use of it, that is, the rate of interest, must necessarily be diminished with them.

In this passage competition is seen as an effect rather than a cause. The fundamental problem is a shortage of profitable investment opportunities. It would be too generous to attribute to Smith an embryonic theory of deficient effective demand. In fact he provided no reasons why 'it becomes gradually more and more difficult to find within the country a profitable

method of employing any new capital', other than the effect of accumulation in increasing wages and thereby eroding profits. To deny this possibility – as Ricardo was to do – would leave Adam Smith with no explanation of the tendency for a declining profit rate.

#### 5.4.2. *David Ricardo*

Two principles underpin Ricardo's argument. The first fixes the long-run real wage rate at subsistence level, thus denying the workers any share in the economic surplus. It does so through the operation of the Malthusian population principle. According to this principle, and contrary to Smith, Ricardo argued that an increase in the demand for labour could have only a short-run effect on the real wage. In the longer term, population would rise in response to higher real wages, and the subsistence level would be re-established through intense competition among workers. However, Ricardo was careful to qualify this argument. If the pace of accumulation was rapid enough, it was possible for the short-run 'market wage' to exceed the long-run 'natural' real wage for an indefinite period (Ricardo 1821:94–5). Population might never catch up. Moreover, Ricardo – like Marx – defined subsistence in conventional, socially determined terms; it was not a physiological minimum. Thus he wrote that 'there cannot be a better security against a superabundant population' than an expanding working-class 'taste for comforts and enjoyments' (*ibid.*:100), which would encourage restraint in procreation. However, the elevation of workers' tastes was expected to be a lengthy process. In any particular historical period the subsistence level could be regarded as a constant. In the early decades of the nineteenth century there was considerable basis in reality for this argument. At the peak of the Industrial Revolution in Britain capital accumulation was rapid, the population grew at an unprecedented rate, and real wages rose little, if at all.

The second principle concerns the effects of capital accumulation in agriculture, and replaces Smith's vague suggestion that there might be a growing and general scarcity of profitable investment opportunities. Ricardo anticipated an 'increasing difficulty of providing an additional quantity of food with the same proportional quantity of labour' (Ricardo 1821:102). Less and less fertile land would have to be taken into cultivation as the population expanded, and successive increments of labour applied to land already under the plough would produce a declining additional yield. In all but name Ricardo had identified the law of diminishing marginal productivity of agricultural labour. More labour would be required, at the margin of cultivation, to produce an extra unit of corn. Hence the labour value of corn would increase, pushing up the value of the labourers' wages and reducing the surplus product as a proportion of gross output. Rent would account for a continuously rising share of the surplus product. Profits would be squeezed, as a share of the economic surplus if not in absolute terms. The rate of profit would also decline, 'and if the smallness of profits do not check accumulation, there are hardly any limits to the rise of rent, and the fall of profit'

(Ricardo 1815–23:14). In fact it would not be necessary for the rate of profit to fall to zero before accumulation ceased. ‘Long, indeed, before this period, the very low rate of profits will have arrested all accumulation, and almost the whole produce of the country, after paying the labourers, will be the property of the owners of the land and the receivers of tithes and taxes’ (Ricardo 1821: 120–1).

Ricardo illustrates his argument with a number of complicated numerical examples, the interpretation of which continues to generate controversy. In order to make the core of Ricardo’s analysis as clear as possible, we first use a rather simplified version of the example presented in the 1815 *Essay on the Influence of a Low Price of Corn on the Profits of Stock* (Ricardo 1815–23:1–41). We treat it – contentiously – as depicting a one-commodity economy in which inputs and outputs consist entirely of corn. In the *Principles* Ricardo unambiguously allows for industrial as well as agricultural activities. His discussion there is unsatisfactory both in structure (being spread out untidily over several chapters) and in content, since a trivial but irritating error in the arithmetic makes heavy work of an already difficult subject. Rather than enmesh our exposition in the complexities of the example used in the *Principles*, we have simply adapted the earlier numerical example to incorporate the central issues involved.\*

Consider, with the Ricardo of the *Essay*, an agricultural economy which produces only corn, using as inputs only seed-corn and labour. The workers consume corn and nothing but corn, in quantities fixed at conventional subsistence levels by the Malthusian population principle, which held that population growth will rapidly restore wages to the subsistence level should they temporarily rise above it. The effects of capital accumulation are illustrated in Table 5.1. At first only one area of land is cultivated. Gross output is 300 quarters of wheat, and the costs of production (in seed-corn and food for the labourers) amount to 200. The remaining 100 quarters of wheat form the surplus product.\*\* As land is both abundant and homogeneous in quality, no rent is paid and the entire surplus product accrues to the capitalist farmers in profits. The rate of profit can be calculated in the following manner. There is no fixed capital in our example, only circulating capital: a stock of corn set aside from the previous harvest to provide both seed and the

\* It is difficult to establish exactly what sort of economy Ricardo had in mind when writing the *Essay*. At the outset he assumes the farmers’ capital to consist both of buildings and implements and of circulating capital (seed and wage-goods) (Ricardo 1815–23:10). But everything is expressed in terms of corn, rather than in money as in the *Principles*. And the denial that technical improvements in manufacturing can affect the rate of profit, ‘because they do not augment the produce compared with the cost of production on the land’ (Ricardo 1815–23:26) is strongly indicative of a corn model in which the economy-wide profit rate is determined by the ratio of surplus product to corn inputs on the least fertile land.

\*\* In the *Essay* Ricardo used the term ‘Neat [i.e. net] produce’ for what in the *Principles* he described as the ‘surplus produce’ (Ricardo 1821:98). To avoid confusion we use the latter term throughout.

Table 5.1 A Ricardian corn model

	(1) Gross output	(2) Inputs (seed and means of subsistence)	(3)=(1)-(2) Surplus product	(4) Rent	(5)=(3)-(4) Profits	(6)=(5)/(2) Rate of profit	(7)=(4)/(3) Share of rent in surplus product	8=(5)/(3) Share of profits in surplus product
<b>Stage One</b>								
Land 1 only	300	200	100	0	100	0.500	0	1.000
<b>Stage Two</b>								
Land 1	300	200	100	14.3	85.7	0.429	0.075	0.925
Land 2	300	210	90	0	90			
	600	410	190	14.3	175.7			
<b>Stage Three</b>								
Land 1	300	200	100	27.2	72.8			
Land 2	300	210	90	13.6	76.4	0.364	0.151	0.849
Land 3	300	220	80	0	80			
	900	630	270	40.8	229.2			
<b>Stage Four</b>								
Land 1	300	200	100	39.1	60.9			
Land 2	300	210	90	26.2	63.8	0.304	0.231	0.769
Land 3	300	220	80	13.2	66.8			
Land 4	300	230	70	0	70			
	1,200	860	340	78.5	261.5			



labourers' means of subsistence, which are paid in advance. 'Capital' is therefore coterminous with 'costs of production,' and is equal to 200, giving a rate of profit of  $(100/200) = 50$  per cent.

Accumulation proceeds until gross output has doubled to 600 quarters. Half is now grown on second-grade land, which requires more labour, more seed-corn, or both, in order to yield the extra 300 quarters. Inputs on this second piece of land amount to 210, not 200, quarters, and the surplus product is correspondingly smaller, at 90 rather than 100. The maximum rate of profit which can be paid on the second land is given by the surplus product of that land, divided by the capital employed there; it is thus  $(90/210) = 42.9$  per cent. Competition between farmers for access to the more fertile land originally cultivated enables the landlords who own it to charge a rent for it, which they had previously been unable to do. No rent is paid on the inferior land, where the rate of profit, therefore, actually does equal the maximum possible, at 42.9 per cent. In conjunction with competition between farmers, conditions of production on this marginal land determine the rate of profit paid to the capitalists who farm the better land. Their total profits are thus equal to  $(200)(42.9\%) = 85.7$ , and the remainder of the surplus product is paid to the landlords. Total rent payments thus amount to  $(100 - 85.7) = 14.3$ .

Further accumulation results in the cultivation of a third area of land, requiring a capital of 220 quarters to yield a gross output of 300. The rate of profit, set as before by the maximum possible on the marginal land, falls to  $(300 - 220)/(220) = 36.4$  per cent. Rent of 13.6 quarters is now paid on the second-grade land, and the owners of first-class land now receive 27.2. (Ricardo has total rent payments equal to 42, which is evidently an error.) When a fourth area comes into use the rate of profit falls further, to 30.4 per cent, and rent is paid on third-grade land. And so the process continues. The same story could be told, in all essential details, if the increased production were obtained from the intensified cultivation of a single area of land rather than the extension of cultivation to different areas. Pursuing our example, the first 300 quarters of corn output would require a capital of 200 quarters; the second 300 would require 210; and the third 300, 220. Competition would again ensure that each 'dose' of capital yields the same rate of profit (30.4%), and that the remaining surplus product (once profits have been paid) accrues to the landlords as rent.

The crucial point is that the share of rent in the surplus product grows at the expense of profits. Depending on the rate of decline of agricultural productivity, profits may fall to zero. Assuming with Ricardo that the savings propensity of the landlords is, like that of the workers, negligible, the outcome must be a *stationary state* in which population, output and the capital stock all cease to grow. Indeed, as we have seen, accumulation may come to a halt at a positive rate of profit, since the 'trouble, and the risk' associated with investment may lead it to dry up before the rate of profit falls to zero (Ricardo 1821:122). The notion of the stationary state persisted at least as late as the work of John Stuart Mill; it is interesting to note that Mill's

account of the falling rate of profit, as late as 1848 and quite unlike his theory of value, is almost identical to Ricardo's analysis.

The introduction of an industrial sector makes the analysis rather more elaborate, but the essence of Ricardo's argument is unchanged: accumulation reduces the productivity of agricultural labour, increases the labour value of corn, and forces down the rate of profit in both agricultural and manufacturing sectors. This latter result comes about through an increase in the labour value of corn relative to those of cloth and gold, which are unchanged; the money wage therefore increases, but the conclusion is the same. Only the economic mechanism underlying it has altered. This conclusion is examined in more detail in the Appendix.

It is important to realise that Ricardo's argument in no way relies on Keynesian deficiencies in aggregate demand. In the course of an attack on Smith's proposition that accumulation itself would lead to a falling rate of profit, whatever the technical conditions of production, Ricardo (1821:290-2) gave explicit support to Say's Law, and denied the possibility of general overproduction. Marx was later to show that it is in fact possible, if demand is inadequate to allow surplus value to be fully realised in the market, for commodities in aggregate to sell at prices below their normal 'prices of production', and for the rate of profit to fall as a result. But this is not Ricardo's argument.

He did allow for two offsetting factors which might operate against the tendency for the rate of profit to decline. One was the importation of cheap food from abroad, which could avert the rise in wages which he saw as inevitable if domestic farmers remained protected. But this would require modification of the tariff protection afforded by the Corn Laws (in force between 1815 and 1846), and would certainly meet with strong opposition from the landlords. The second was technical progress in domestic agriculture. This, Ricardo believed, was double-edged. The stimulus given by the higher rate of profit to capital accumulation would give a temporary boost to real wages, encourage population growth, and thus increase rent and depress the rate of profit once again. Thus 'improvements in agriculture . . . are ultimately of immense advantage to landlords' (Ricardo 1821:81n.). On balance, he remained pessimistic about the long-run prospects for economic growth.

Ricardo concluded from his analysis that 'the interest of the landlord is always opposed to the interest of every other class in the community' (Ricardo 1815-23:21). In a famous additional chapter to the *Principles*, entitled 'On machinery', he suggested that there was an economic basis for conflict between capitalists and workers. Ricardo had once believed that mechanisation could not reduce the demand for labour. Now, strongly influenced by the writings of John Barton, he admitted that he had changed his mind: 'the opinion entertained by the labouring class, that the employment of machinery is frequently detrimental to their interests, is not founded on prejudice and error, but is conformable to the correct principles of political economy' (Ricardo 1821:392). Barton had argued that the increased

use of machinery would raise the proportion of fixed to circulating capital, thereby threatening the employment of labour. Ricardo put it rather differently. In asserting that machinery could not damage the workers' interests, he wrote,

My mistake arose from the supposition, that whenever the net income of a society increased, its gross income would also increase; I now, however, see reason to be satisfied that the one fund, from which landlords and capitalists derive their revenue, may increase, while the other, that upon which the labouring class mainly depend, may diminish, and therefore it follows, if I am right, that the same cause which may increase the net revenue of the country, may at the same time render the population redundant, and deteriorate the condition of the labourer (*ibid.*: 388).\*

The gist of the argument is that capital accumulation may both increase output and decrease the wage fund, reducing employment at the same time as output is growing. Coming just a few years after the peak of Luddite activity, this was seen as an incitement to workers to resist the introduction of new technology.

The wheel has turned full circle. Accumulation and the division of labour, for Adam Smith the major stimulus to growth and the increased prosperity of all classes, became, for Ricardo – and still more for Marx – a source of misery for the most numerous class of all. Smith had displayed a rather naive belief in social harmony (tempered, it is only fair to add, by attacks on monopolists, unproductive labour and, occasionally, landlords). In Ricardo this belief yielded to a recognition of the roots of acute class conflict. The chapter 'On machinery' may not enhance Ricardo's reputation for consistency. For Marx, at least, it was clear evidence of his integrity: 'Chapter XXXI: "On Machinery". This section, which Ricardo added to his third edition, bears witness to his honesty which so essentially distinguishes him from the vulgar economists' (*TSV II*:555). A long and detailed criticism of Ricardo's argument follows this tribute.

## 5.5 Conclusion

In this chapter we have outlined the nature of classical political economy from a particular perspective. We have interpreted classical economics, especially that of Ricardo, as an economics in the surplus tradition of analysis and, moreover, in such a way that the classical economists appear as direct and important forerunners of Marx.

This view is an interpretation of classical political economy, and it is an interpretation which has been severely criticised from two contrary directions. On the one hand, it has been argued that Smith and Ricardo were really neoclassical theorists in embryo. Smith's cost of production theory of value, his treatment of 'supply and demand', Ricardo's ambivalence on the

\* Again the terminology is rather confusing. By 'gross income' in this context Ricardo means what we defined as net product (above, section 5.2); by net income he clearly means the surplus product.

labour theory of value, his anticipation of the main elements of marginal productivity analysis and his influence upon Austrian capital theory all lend credence to this point of view, which has always had a large following among neoclassical economists concerned with intellectual history. On the other hand, one might accept with many contemporary Marxists the fundamental importance of surplus to classical economists, but deny that the use of apparently similar concepts implies a common theoretical tradition. On this line of reasoning the purpose and method of Marx's economics are so radically different from that of Smith or Ricardo that the latter can in no way be seen as occupying the same analytical space as Marx. Both Smith and Ricardo framed their concepts as part of an intellectual struggle to aid the establishment of competitive capitalism. By contrast Marx structured his analysis to hasten its downfall. Moreover, as we have already seen in the previous chapters, Marx's categories and analytical propositions have both a philosophic and a sociological significance completely lacking in those of the classics.

The acceptance of a particular interpretation does not preclude us from recognising any validity in the others. There clearly are a host of similarities and differences between classical political economy and Marx, and any interpretation is necessarily a more or less informed judgement as to the relative order of significance which they have. It also follows that arguing for a particular interpretation in preference to the alternatives is an involved and lengthy business. Nevertheless, we can say that a justification for the interpretation made in this chapter rests in great part upon Marx's own work. He made a long and exhaustive study of the classics and, as we will see in the following chapter, built up his own political economy on the basis of an explicit critique of their concepts and analysis. It would be very difficult indeed to argue that Marx himself completely misinterpreted the characteristics of classical political economy, for this would imply that he fundamentally misunderstood the nature of the theory he himself constructed.

### **Appendix: Ricardo's theory of the declining profit rate**

Following Ricardo's exposition in the *Principles*, we assume that the labour theory of value holds, and that workers consume both corn and manufactured products in fixed proportions. We shall represent the latter by a single commodity, called cloth, and suppose it to be produced by direct labour, alone and unaided, under conditions of constant (rather than diminishing) productivity. Finally, since this is now a monetised economy, we assume that the money commodity, gold, is also produced by unaided labour with constant productivity.

Table 5.2 illustrates Ricardo's argument. For simplicity we ignore the need for seed-corn, and suppose that corn can be produced by labour alone. More precisely, it is assumed that 200 days of labour applied to Land 1, and 220 days on Land 2, yield 300 quarters of corn in each case. Workers

Table 5.2 A more general Ricardian model

*Conditions of production*


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Gold:	1 day of labour	<i>produces</i>	£1 worth of gold
Cloth:	1 day of labour	<i>produces</i>	1 yard of cloth
Agriculture:			
Land 1:	200 days of labour	<i>produce</i>	300 quarters of corn
Land 2:	220 days of labour	<i>produce</i>	300 quarters of corn
Real wage:	1/2 quarter of corn <i>plus</i>		1/2 yard of cloth per worker per day

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*Stage 1: only Land 1 in use*

Value of corn:	$(200)/(300) = 2/3$ days of labour = $(2/3) (£1) =$
(in labour and money)	$66\frac{2}{3}p$
Money wage:	$(1/2) (66\frac{2}{3}p) + (1/2) (£1) = 33\frac{1}{3}p + 50p =$
	$83\frac{1}{3}p$
Money value of gross output:	$(300) (66\frac{2}{3}p) = £200$
Money costs of production:	= Wage bill = Money value of capital = $(200) (83\frac{1}{3}p)$
	= $£166\frac{2}{3}p$
Rent:	Zero
Profits:	$£(200) - (166\frac{2}{3}) = £33\frac{1}{3}$
Rate of Profit:	$(\text{Profits})/(\text{Value of capital}) = (33\frac{1}{3})/(166\frac{2}{3}) =$
	0.200

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*Stage 2: Land 1 and Land 2 used*

Value of corn:	(set by production conditions on Land 2): $(220)/(300) =$
(in labour and money)	$\frac{11}{15}$ days of labour = $(\frac{11}{15}) (£1) = 73\frac{1}{3}p$
Money wage:	$(1/2) (73\frac{1}{3}p) + (1/2) (£1) = 36\frac{2}{3}p + 50p = 86\frac{2}{3}p$

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*On Land 2:*

Money value of gross output:	$(300) (73\frac{1}{3}p) = £220$
Money costs of production:	= Wage bill = Money value of capital = $(220) (86\frac{2}{3}p)$
	= $£190\frac{2}{3}$
Rent:	Zero
Profits:	$£(220) - (190\frac{2}{3}) = £29\frac{1}{3}$
Rate of Profit:	= $(\text{Profits}/\text{Value of capital}) = (29\frac{1}{3})/(190\frac{2}{3}) =$
	0.154

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*On Land 1:*

Money value of gross output:	= $(300) (73\frac{1}{3}p) = £220$
Money cost of production:	= Wage bill = Money value of capital = $(200)(86\frac{2}{3}p)$
	= $£173\frac{1}{3}$
Profits:	= $(\text{Rate of profit}) \times (\text{Value of Capital}) = (0.154)$
	$(£173\frac{1}{3}) = £26\frac{1}{3}$
Rent:	= $£(220 - 173\frac{1}{3} - 26\frac{1}{3}) = £20\frac{1}{3}$

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require for their daily subsistence half a quarter of corn and half a yard of cloth. One yard of cloth can be produced in a day. Similarly gold is produced by workers of constant productivity, such that a £1 coin is the product of one day's work. It follows that the monetary equivalent of the labour value of a yard of cloth, which is also produced in a day, is always £1. One component of the daily wage in agriculture can thus be fixed (in money terms) at once, since  $(£1) (1/2) = 50p$  will always purchase the worker's daily requirements of cloth.

In the first period only Land 1 is cultivated. Each quarter of wheat requires  $(200/300) = 2/3$  of a day's labour. Hence, corn will sell for  $£1 (2/3) = 66 \frac{2}{3}p$ . The value of the gross output of corn, in terms of gold, is therefore  $(300) (66 \frac{2}{3}p) = £200$ . The corn component in the daily wage can now be calculated, in gold, as  $(1/2) (66 \frac{2}{3}p) = 33 \frac{1}{3}p$ , and the money wage is thus  $(50p + 33 \frac{1}{3}p) = 83 \frac{1}{3}p$ . The total wage bill is  $(200) (83 \frac{1}{3}p) = £166 \frac{2}{3}$ . Since the farmers are supposed to use neither fixed capital of any sort nor seed, this is also both the total cost of production and the value (expressed in gold) of the capital stock. Land is assumed to be both abundant and homogeneous, so no rent is paid. The entire difference between the value of the gross product and the cost of production – 'the remaining value or overplus' (Ricardo 1821:91) – accrues in profits to the capitalist farmers. Profits thus total  $£(200 - 166 \frac{2}{3}) = £33 \frac{1}{3}$ , and the rate of profit is  $(33 \frac{1}{3}) / (166 \frac{2}{3}) = 20$  per cent.

When Land 2 comes under the plough, the labour value of corn increases. It is now determined by the productivity of labour on the inferior soil, and its money equivalent is  $£(220/300) = 73 \frac{1}{3}p$  per quarter. This is because one day's work on the farm will produce  $(300/220)$  quarters of corn, which is equal in value to £1 in gold. Real wages are unaltered: workers still require half a quarter of corn and half a yard of cloth each day. But the money value of the corn consumed by the labourers has increased, from  $33 \frac{1}{3}p$  to  $(1/2) (73 \frac{1}{3}p) = 36 \frac{2}{3}p$ . The daily wage must therefore increase by the  $3 \frac{1}{3}p$  necessary to purchase the required amount of corn; it is now  $86 \frac{2}{3}p$  instead of  $83 \frac{1}{3}p$ . Again, no rent is paid on the marginal land (Land 2). Profits are given by the difference between the money value of gross output and the wage bill, since there are no other costs of production. Profits can be calculated as  $(300) (73 \frac{1}{3}p) - (220) (86 \frac{2}{3}p) = £(220 - 190 \frac{2}{3}) = 15.38$  per cent. Competition ensures that this rate of profit prevails also on Land 1. Here the wage bill is  $(200) (86 \frac{2}{3}p) = £173 \frac{1}{3}$ , and total profits are  $£(173 \frac{1}{3}) (15.38 \text{ per cent}) = £26 \frac{1}{3}$ . Rent can be calculated, as in the previous example, by subtracting both wages and profits from the value of the gross product. It is equal to  $£(220 - 173 \frac{1}{3} - 26 \frac{1}{3}) = £20 \frac{1}{3}$ .

To summarise the argument: declining productivity in agriculture raises the value of corn, pushes up money wages, reduces profits and increases rent. The consequent fall in the rate of profit will occur in a largely industrial as well as a purely agricultural economy, since the increase in the labour value of corn drives up the manufacturers' costs without any corre-

sponding rise in the value of industrial output. As Ricardo himself realised, it is possible to make the analysis even more elaborate. Farmers use buildings and implements, in addition to labour and seed; machines are used in manufacturing; workers do not necessarily consume corn and cloth in fixed proportions; and prices may not conform to the labour theory of value; but the fundamental conclusion stands. If in a closed competitive capitalist economy there are diminishing returns in agriculture, and if the Malthusian wage–population theory is valid, the rate of profit must fall with capital accumulation, and economic stagnation is a probable consequence.

### Reading guide

Marx's most detailed analysis of classical economics is in the three volumes of *Theories of Surplus Value*, of which I:153–5 deals with Mercantilism; I: Ch. II with the Physiocrats; I:69–97, 155–74 and II:216–35, 342–72 will be found most useful on Adam Smith; and II: Chs X, XV–XVIII are the most important (though by no means the only) passages on Ricardo. His critique of Proudhon is in *Poverty of Philosophy*. The celebrated 'Afterword' of 1872 (*Capital* I:12–20) should be read in conjunction with King (1979).

Furniss (1920:Ch. 7) provides a useful survey of the Mercantilist theory of value, while Meek (1962) is the best introduction to Physiocracy. Smith and Ricardo can, and should, be read in the original. The most important sections of the *Wealth of Nations* are Smith (1776:Book I:Chs 1–9 and Book II:Chs 3–5). The 1951 edition of Ricardo's *Principles*, edited by Sraffa, should be used: the most important chapters are I–VI, XXI, XXX and XXXI, which seem to us to give strong support to the surplus (as opposed to the neoclassical) interpretation of Ricardian theory. The 1815 *Essay* (Ricardo 1815–23:1–41) and his last paper, 'Absolute and exchangeable value' (Ricardo 1815–23:361–412) are also useful. Two interesting articles are those by Moore (1966) and Stigler (1958).

The surplus interpretation of classical economics is advocated by Bradley and Howard (1982a), Dobb (1937 and, especially, 1973), Meek (1961, 1967, 1973, 1977a) and Sraffa (1951). It is also favoured, on balance, by Schumpeter (1954). Two recent books which place Ricardo firmly in the surplus tradition are Walsh and Gram (1980) and Howard (1983).

The opposing view, that Ricardo was a direct forerunner of neoclassical analysis, was first developed by Marshall (1890:Appendix I). Its most prominent modern exponent is Hollander (1979), who pursues the controversy in exchanges with O'Brien (1981) and Roncaglia (1982). The interpretation of the 1815 *Essay* is debated in Eatwell (1975) and Hollander (1973, 1975, 1982a, 1982b).

Among the Marxists, de Brunhoff (1973) suggests that Marx must be seen as an 'a-Ricardian'; a similar assessment may be found in Pilling (1972). Fine (1980a:Ch. 6) also stresses the differences between Marx and Ricardo.

Readers are urged to explore Ricardo's own writings before deciding between the various protagonists. They may then be interested in some of the mathematical formulations of Ricardian economics. Of these the easiest is probably Blaug (1978:119–26), who also analyses the numerical examples of the *Principles*. Howard (1981) and Pasinetti (1960) favour the surplus interpretation, while Samuelson (1959) is more favourable to the neoclassical view. See also Brems (1970).



## Chapter 6

# Marx's critique of classical political economy

### 6.1 Introduction

Marx's respect for classical political economy increased his determination to free it from its internal logical inconsistencies, and from the methodological defects which he believed to be largely responsible for these shortcomings. He devoted great attention to the classical theory of value which, despite its major advances over earlier work, was still open to serious criticism. Since Marx attributed most of the other problems in classical economics to this source, we begin in the section 6.2 with an examination of his critique of the Ricardian theory of value, and move to a consideration of the classical theory of economic development in section 6.3. Critical analysis of Marx's conclusions is deferred until later chapters.

### 6.2 The theory of value

A famous passage in the *Critique of Political Economy* summarises the problems which Marx found in Ricardo's theory of value. Four fundamental criticisms are made; we deal with each in turn.

#### 6.2.1 The theory of wage-labour

*One.* Labour itself has exchange-value and different types of labour have different exchange-values. If one makes exchange-value the measure of exchange-value, one is caught up in a vicious circle, for the exchange-value used as a measure requires in turn a measure. This objection merges into the following problem: given labour-time as the intrinsic measure of value, how are wages to be determined on this basis. The theory of wage-labour provides the answer to this' (*Critique*:61–2).

This problem was encountered, in a rather different form, with the Mercantilists, for whom the values of commodities were determined by the value of the labour embodied in them (above, section 5.3.1). As Marx saw, this provides no explanation at all: the values of all but one commodity are made to depend upon the value of another commodity (labour), the value of which

obviously cannot itself be determined in this way. Classical political economy never overcame the problem which this posed. Either labour sold at its value, in which case the labour theory of value was vacuous; or it did not, and the sale of the commodity in terms of which value is defined violated the law of value (see *Capital* I:535–8). It seemed impossible in logic to advocate the labour theory of value and to develop a consistent analysis of wages at the same time.

Marx thus needed to show that value depends on the quantity of labour embodied in a commodity, not on the value of that labour. He argued that classical political economy had been guilty of a category mistake. Labour is a human *activity*, not a commodity. It is not bought and sold, and therefore has no value, since the category 'value' applies only to commodities. Thus the concept of a "price of labour" is just as irrational as a yellow logarithm' (*Capital* III:818). What is sold by the proletarian and purchased by the capitalist in the 'labour market' is *labour power*, the worker's 'capacity for labour' (*Capital* I:168).

A theory of wages is a theory pertaining to the exchange value of this 'capacity for labour'. On this Ricardo argues as follows. The long-run equilibrium real wage – which Ricardo misleadingly terms the 'value of labour' – is maintained at the subsistence level by the operation of the Malthusian population principle. If real wages rise as a result of excess demand, population will grow and the supply of labour power will increase, until competition between workers forces real wages back to their subsistence level. Thus an inexorable natural law entails that the long-run supply of labour power (to use Marx's term) is perfectly elastic at the subsistence level.

Even on empirical grounds, Marx had very little respect for this argument. He maintained that the time lag in the response of population to increased wages is too long for it to operate as Malthus expected (*Capital* I:637–8). Furthermore, he accused Malthus of confusing an erroneous macroeconomic proposition with one which is indeed valid at the micro level. The supply of labour power to any one industry or occupation may well be almost perfectly elastic, even in the short run, but Malthus failed to prove that this would be true of the supply of labour power in the aggregate (*ibid*:638–9).

Marx's main attack, however, was methodological. The Malthusian theory of wages was presented as a natural law applying to all economies (although Ricardo qualified his own statements by recognising that the level of subsistence was socially determined and possibly variable in the long run). Marx followed the early socialist critics of Malthus, who had claimed that the real barriers to improved conditions for working people were located in the social structure of capitalism and could not be derived from ahistorical and asocial principles of biology. For Marx the category 'wages' was a historically specific one, and had meaning only within the capitalist mode of production. He thus sought a theory of wages relevant specifically and exclusively to capitalist economies (*Capital* I:637–9). Since labour power is

a commodity like any other, its value must rest on the same factors which determine the value of any other commodity (*ibid.*:170–1; *SW* II:56). And the mechanism by which the long-run equilibrium price of labour power reflected its labour value must be rooted firmly in the characteristics of capitalist society.

The value of labour power, like the value of any other commodity, is given by the quantity of labour required, under the prevailing technical and social conditions, for its reproduction. The labour time needed to produce and reproduce human labour power is simply that required to keep the worker, and where relevant also the worker's family, alive and capable of performing labour. In this sense Marx, like Ricardo, had a subsistence theory of wages. He was, however, even more careful to qualify it. The value of labour power has both a natural and a 'historical and moral element' (*Capital* I:171), and depends in part on social norms. But, like Ricardo, Marx treated this element of the wage as given in the short run, so that the concept of a fixed subsistence wage retains its validity within any given historical period.

Marx broke with Ricardo on the question of the mechanism by which real wages are maintained, in long-run equilibrium, at their subsistence level. Since labour power – unlike other commodities – is not produced for profit by capitalists, this mechanism must be accounted for in some detail. In the case of all other commodities, an increase in market price over the 'natural' or equilibrium price attracts capital from other industries. Supply and demand, or competition between capitalists, enforces the law of value. No such agency is available in the case of human labour power. Furthermore, as we have seen, Malthus's theory of population was rejected by Marx. Instead he concentrated upon a factor specific to the process of capitalist accumulation: the industrial reserve army of the unemployed, which creates competition among workers and prevents wages from rising above the value of their labour power. This is a form of 'overpopulation', but it has little in common with the classical use of that concept. The notion of 'surplus population' which Marx had in mind was quite unMalthusian:

it is capitalistic accumulation itself that constantly produces, and produces in the direct ratio of its own energy and extent, a relatively redundant population of labourers, i.e., a population of greater extent than suffices for the average needs of the self-expansion of capital, and therefore a surplus-population . . . This is a law of population peculiar to the capitalist mode of production; and in fact every special historic mode of production has its own special laws of population, historically valid within its limits alone. An abstract law of population exists for plants and animals only, and only in so far as man has not interfered with them (*Capital* I:630–2).

What, then, are the sources of the industrial reserve army? It is technical progress that produces and reproduces the unemployment of a substantial proportion of the working class. Following John Barton, the Ricardo of 'On machinery', and both early socialist and conservative critics of indus-

trialisation, Marx argued that unemployment is an inherent product of technical change in a modern capitalist economy. Direct or 'living' labour is replaced by 'dead' labour, leading to the growth of constant capital at a faster rate than the accumulation of variable capital. Hence the growth of the supply of labour power outstrips the demand (*Capital* I:632). Other factors contribute to the reserve army, especially in the early stages of the development of modern industry. The ranks of the unemployed are first swollen by the application of modern technology to agriculture, creating mass migration to the towns and a high degree of under-employment among those who remain as 'a constant latent surplus-population' (*ibid.*:642). Second, there occurs rapid expansion in the employment of women and children (*ibid.*:641). Third, there is the wretchedly exploited and irregularly employed section of the labour force which is still found in domestic industry, forming the 'stagnant' part of the reserve army (*ibid.*:643).

The existence of the industrial reserve army of the unemployed means that competition between workers for jobs prevents real wages from rising, in the long run, above the subsistence level which reflects the value of labour power. This analysis is far removed from the classical theory of wages. No 'abstract' ahistorical law of population, applicable to plants and animals as well as to people, is involved. Nor is it a supply and demand theory, as Marx and Ricardo understood such a theory:

[Classical political economy] soon recognized that the change in the relations of demand and supply explained in regard to the price of labour, as of all other commodities, nothing except its changes, i.e., the oscillations of the market-price above or below a certain mean. If demand and supply balance, the oscillation of prices ceases, all other conditions remaining the same. But then demand and supply also cease to explain anything. The price of labour, at the moment when demand and supply are in equilibrium, is its natural price, determined independently of the relation of demand and supply. And how this price is determined, is just the question (*Capital* I:537–8).

Having determined the value of labour power, Marx turned his critical attention to the analysis of surplus value.

### 6.2.2 *The theory of capital and exploitation*

*Two.* If the exchange-value of a product equals the labour-time contained in the product, then the exchange-value of a working-day is equal to the product it yields, in other words, wages must be equal to the product of labour. But in fact the opposite is true. *Ergo*, this objection amounts to the problem, – how does production on the basis of exchange-value solely determined by labour-time lead to the result that the exchange-value of labour is less than the exchange-value of its product? This problem is solved in our analysis of capital (*Critique*:62).

This was the most acute problem facing political economy, and until it was solved no adequate theory of surplus value was possible. As we saw in section 5.3.3, it drove Adam Smith to reject the labour theory of value itself

when property incomes of any sort existed. The classical economists who followed Smith insisted that these incomes originated in production and not in exchange; they resulted from the sale of commodities at, and not above, their labour values. But if labour was the only source of value, why did not the entire product accrue to the labourer who produced it?

This very question was raised against classical political economy by the so-called 'Ricardian socialists', who claimed that the working class was morally entitled to the full fruits of its labours. In the 1820s and 1830s such writers as John Francis Bray, Thomas Rowe Edmonds, John Gray, Thomas Hodgskin, Piercy Ravenstone and William Thompson puzzled over the reasons why workers failed to receive all that they produced. They developed two incompatible explanations. One suggested that property incomes were the result of coercion, fraud and the exercise of political power: in short, of unequal exchange. The other identified surplus labour performed by working people as the source of profits and rent, and denied (at least implicitly) that unequal exchange was a necessary condition for the extraction of surplus value. The term 'surplus value' itself seems to have originated with William Thompson.

The early socialists' anticipation of Marx's analysis was often very striking, and was generously acknowledged by Marx himself (for example in *TSV* III:238–325). But in the last resort the Ricardian socialists failed to reconcile the capitalists' ability to compel the performance of surplus labour with the formal freedom of the worker to choose between different employers and different types of work. For this paradox to be resolved, Marx argued, the distinction between labour and labour power was essential.

Surplus labour is an economic prerequisite for the existence of any class society. If technology, resources, knowledge and economic organisation were so rudimentary that a day's work yielded only enough to maintain the lives of the producers, no non-producing class could survive. In all the class societies which preceded capitalism, the fact that the producers are forced to produce a surplus product and to perform surplus labour is blatantly obvious. Few would attempt to explain the opulence of the feudal lord or the slave-owner other than by their exploitation of the producing masses. The nature of the wage bargain in capitalism, however, distorts and conceals a fundamentally similar process which merely takes a different form:

But since the workman receives his wages *after* his labour is performed, and knows, moreover, that what he actually gives to the capitalist is his labour, the value or price of his labouring power necessarily appears to him as the *price or value of his labour itself*. . . . A double consequence flows from this.

Firstly. *The value or price of the labouring power* takes the semblance of the *price or value of labour itself*, although, strictly speaking, value and price of labour are senseless terms.

Secondly. Although one part only of the workman's daily labour is *paid*, while the other part is *unpaid*, and while that unpaid or surplus labour constitutes exactly the fund out of which *surplus value* or *profit* is formed, it seems as if the aggregate labour was paid labour.

This false appearance distinguishes *wages labour* from other *historical*

forms of labour. On the basis of the wages system even the *unpaid* labour seems to be *paid* labour. With the *slave*, on the contrary, even that part of his labour which is paid appears to be unpaid. . . .

Take, on the other hand, the peasant serf, such as he, I might say, until yesterday existed in the whole East of Europe. This peasant worked, for example, three days for himself on his own field or the field allotted to him, and the three subsequent days he performed compulsory and gratuitous labour on the estate of his lord. Here, then, the paid and unpaid parts of labour were sensibly separated, separated in time and space; and our Liberals overflowed with moral indignation at the preposterous notion of making a man work for nothing (*SW* II:59–60; see also *Capital* I:539).

It is thus the form of the wage contract in capitalism which is the source of all the difficulties. Because the worker is paid a wage, and seems to be paid for every hour at work, the origins of surplus value are obscured. There appears to be no unpaid labour to explain the capitalist's profits.

In reality only part of the working day is required to produce the means of subsistence, and the remaining hours of work are devoted to surplus labour:

The fact that half a day's labour is necessary to keep the labourer alive during 24 hours, does not in any way prevent him from working a whole day. Therefore, the value of labour-power, and the value which that labour-power creates in the labour-process, are two entirely different magnitudes; and this difference of the two values was what the capitalist had in view, when he was purchasing the labour-power (*Capital* I:193).

Or, as Marx often put it, the use value of labour power exceeds its exchange value. The value of the product of labour exceeds the value of the workers' means of subsistence. It is this above all which makes labour power unique among commodities in the capitalist mode of production. And this surplus labour is the source of surplus value.

Hence Marx placed great emphasis on the length of the working day. Once the value of labour power is determined, a longer working day means more unpaid labour for the capitalist. According to Marx, Ricardo's embryonic theory of surplus value was so elliptical, by contrast with the analysis of the Ricardian socialists and even of Adam Smith, precisely because of his failure to grasp this point:

Ricardo starts out from the actual fact of capitalist production. The value of labour is smaller than the value of the product which it creates. . . . The excess of the value of the product *over* the value of the wages is the surplus-value . . . [but] the mere *possibility* of this surplus-labour (i.e., the existence of that necessary minimum productivity of labour), does not in itself make it a *reality*. For this to occur, the labourer must first be *compelled* to work in excess of the [necessary] time, and this compulsion is exerted by capital. This is missing in Ricardo's work, and therefore also the whole struggle over the regulation of the normal working-day (*TSV* II:405–6).

Ricardo did not deal explicitly with the length of the working day, in effect assuming that it is constant. Marx, on the other hand, stressed the continuous pressure in capitalism for the working day to increase. The very long Chapter X of *Capital* I is devoted entirely to a historical account of this press-

ure, and of the partly successful resistance to it of the working class. Nothing of this nature can be found in Ricardo, whom Marx criticised accordingly. 'Important as it was, to resolve value into labour, it was equally important to resolve surplus-value into surplus-labour, and to do so in explicit terms' (*TSV* II:405). Ricardo had not done so.

His failure contributed to the shortcomings of the classical theory of capital. In the first place, the classical economists were prone to fetishistic confusion of material objects and social relations. For Marx 'capital' meant above all the power of a minority class to monopolise the means of production and compel the performance of surplus labour by propertyless wage-labourers:

property in money, means of subsistence, machines, and other means of production, does not as yet stamp a man as a capitalist if there be wanting the correlative – the wage-worker, the other man who is compelled to sell himself of his own free-will . . . capital is not a thing, but a social relation between persons, established by the instrumentality of things (*Capital* I:766).

Some of the Ricardian socialists, notably Thomas Hodgskin, had recognised the importance of a correct definition of capital. The classical economists had missed it entirely.

The second defect in the classical theory of capital was its inability to distinguish clearly between constant and variable capital. Marx's categories, on the other hand, integrate the theory of capital and the analysis of exploitation. Since the use value of labour power exceeds its exchange value, variable capital is capable of generating surplus value, while constant capital merely passes on its value, unchanged in magnitude (see section 4.7). In Chapters X and XI of *Capital* II Marx commented at some length on the absence of this crucial distinction in classical economics.\* It is significant that this is the only place in *Capital* itself where Marx developed his criticism of classical political economy so thoroughly. These objections, as we shall see, fundamentally differentiate his model of capital accumulation, and his theory of the falling rate of profit, from Ricardo's treatment of these questions. They also form the basis of his third line of attack on the classical theory of value, which concerns its analysis of competition.

### 6.2.3 The theory of competition

*Three.* In accordance with the changing conditions of demand and supply, the market-price of commodities falls below or rises above their exchange-value. The exchange-value of commodities is, *consequently*, determined not by the labour-time contained in them, but by the relation of demand and supply. In fact, this strange conclusion only raises the question how on the basis of exchange-value a market-price differing from this exchange-value

\* See also *Capital* I:588–91 and *TSV* I:343–4. Meek (1973:120) suggests that Ricardo's later work, unpublished until quite recently, reveals that he was groping towards the same distinction (Ricardo 1815–23:357–412). In terms of Ricardo's *Principles*, however, Marx's criticism is entirely justified.

comes into being, or rather, how the law of exchange-value asserts itself only in its antithesis. This problem is solved in the theory of competition (*Critique*:62).

Classical political economy identified two dimensions to this problem. First, and less important, was the deviation of day-to-day market prices from long-run equilibrium or 'natural' prices, due to fluctuations in supply and demand. Ricardo agreed with Marx that this was a relatively minor issue. Second, and more serious, was the prospect that 'natural prices' themselves diverged from labour values. Quite early in his economic researches Marx realised that such divergencies were inescapable if the composition of capital differs while competition tends to equalise the rate of profit between industries. Ricardo was aware of this difficulty, which he attributed to differences in the proportions of fixed and circulating capital, and one of his numerical examples is analysed in Appendix I to this chapter. But his reaction was ambivalent, and his use of the term 'value' inconsistent and confusing. Sometimes by the term 'value' he meant labour value, and sometimes equilibrium price. Furthermore, Ricardo neither abandoned the labour theory of value nor gave a satisfactory explanation of its continued operation when 'natural prices' and labour values differed.

This is the crux of the notorious 'transformation problem', which cannot be understood without reference to Marx's theory of capital. The relation between constant and variable capital is central to the whole question. Imagine a competitive capitalist economy in which the rate of profit is equal in all sectors, but in which the organic composition of capital – that is, the ratio of constant to variable capital – is unequal. In such circumstances, Marx demonstrated, labour values and long-run equilibrium prices must in general diverge. But these differences are systematic, not random, and Marx sought to show that they modify the operation of the labour theory of value without destroying it. In fact, he argued, they can only be comprehended by reference to the theory of value, which is logically prior to an analysis of equilibrium prices.

Consider the simple capitalist economy summarised in Table 6.1, which is a slightly more complex version of the model used in section 5.3.4. (A more intricate example used by Marx himself is presented in Appendix II.) There are three sectors or 'departments', producing a means of production (steel), a means of subsistence (corn) and a third 'luxury' commodity which belongs in neither category (gold). The economy is in a self-reproducing state, in which enough is produced for the same level of output to be maintained in subsequent periods. There are no landlords, and the capitalists consume their entire incomes; the rate of accumulation is therefore zero, and the economy is in what Marx termed *simple reproduction*.

In department I the production of 120 tons of steel requires 40 hours of labour and 80 tons of steel. In department II 10 tons of steel and 50 hours of labour are used to produce 60 quarters of corn. Department III uses 30 tons of steel and 30 hours of labour to give an output of 60 ounces of gold. It is easily shown that the production of a ton of steel requires total labour-



## Production conditions

	Inputs		Output
	Means of production	Labour	
Department I	80 tons steel	+ 40	→ 120 tons steel
II	10 tons steel	+ 50	→ 60 quarters corn
III	30 tons steel	+ 30	→ 60 ounces gold
Total	120	120	

## The value system

	Constant capital (c)	Variable capital (v)	Surplus value (s)	Value (c+v+s)	Rate of exploitation (s/v) (%)	Organic composition of capital (c/v)	Rate of profit (s/(c+v) (%))
Department I	80	20	20	120	100	4	20
II	10	25	25	60	100	0.4	71.4
III	30	15	15	60	100	2	33.3
Total	120	60	60	240			

## Marx's price system

(1)	(2)	(3)	(4)	(5)=(4)·(3)	(6)=(3)+(5)	(7)	(8)	(9)
Constant capital (c)	Variable capital (v)	Cost price (c+v)	Average rate of profit ( $\Sigma s/\Sigma(c+v)$ ) (%)	Profits	Price of production	Price minus Value	Profits minus Surplus value	Price-value ratio
Department I	80	20	33 1/3	33.3	133.3	+13.3	+13.3	1.11
II	10	25	33 1/3	11.7	46.7	-13.3	-13.3	0.78
III	30	15	33 1/3	15	60	0	0	1
Total	120	60		60	240	0	0	

inputs, direct and indirect, of one hour. The direct labour requirements are  $(40)/(120) = 1/3$ . The indirect labour requirements consist of the labour needed to produce the input of steel per ton of steel output, which is  $(80)/(120) = 2/3$  ton. Writing the labour value of a ton of steel as  $\lambda$ , we can then write  $2/3\lambda + 1/3 = \lambda$ , from which it is clear that  $\lambda = 1$ , and the value of the total output of steel is  $(120)(1) = 120$ . Similarly both a quarter of corn and an ounce of gold have a labour value of unity, and the output of the two departments is valued at 60 in each case.

It follows that the value of the constant capital used in each department – which by assumption consists entirely of steel – is 80, 10 and 30 respectively, and adds up to 120. The number of hours of living labour employed is  $40 + 50 + 30 = 120$ , which will be divided between paid and unpaid (necessary and surplus) components according to the rate of exploitation (see above, section 4.7). If there is competition in the market for labour power the rate of exploitation will be the same in all three departments. This is so because real wages will be equal, so that the same amount of necessary labour will be required in each department; and the working day will be identical in length in all three, so that surplus labour (which is equal to total labour minus necessary labour) will also be the same.

Assume a rate of exploitation (rate of surplus value) of 100 per cent. The necessary and surplus parts of living labour are thus equal, giving quantities of variable capital and surplus value in the three departments of  $(20 + 20)$ ,  $(25 + 25)$  and  $(15 + 15)$ . These calculations from the basis of the 'value system' of Table 6.1. Note that the sum of the variable capital employed in the three departments  $(20 + 25 + 15)$  equals the labour value of the output of corn. This is so because workers spend all their incomes on corn, of which they are the sole purchasers. Similarly the value of the output of gold (60) equals the sum of the surplus value accruing to capitalists throughout the economy  $(20 + 25 + 15)$ , since in this simple model capitalists spend their entire incomes on gold.

If the labour theory of value holds, the rate of profit in each department is the ratio of surplus value to the total capital (constant and variable) employed there:  $r_i = s_i/(c_i + v_i)$ , where  $i = \text{I, II or III}$ , depending upon which department is considered. There is no fixed capital in this model. Both constant and variable capital turn over exactly once a year, so that both consist entirely of circulating capital. This conforms to Marx's general practice; again, see Appendix II for an exception. Marx was, of course, aware of the practical significance of fixed capital in modern capitalist industry. He believed, however, that it would make little difference to the analysis. His assumption of circulating capital was thus intended as an innocuous simplification.

The rate of profit in each sector can now be established. In department I it is  $(20)/(80 + 20) = 20$  per cent, in department II it is  $(25)/(10 + 25) = 71.4$  per cent, while the rate of profit in department III is  $(15)/(30 + 15) = 33\frac{1}{3}$  per cent. There is an intimate and inverse relationship between these rates of profit and the organic compositions of capital in the

three sectors, which are  $(80)/(20) = 4$ ,  $(10)/(25) = 0.4$  and  $(30)/(15) = 2$  respectively. The higher the organic composition of capital, the lower the rate of profit.

As Marx points out, in a mature competitive capitalist economy such differences in profit rates cannot persist. Capitalists will abandon unprofitable industries for sectors which offer higher profit rates, and this movement of capital will continue until rates of profit have become equal. The result is the establishment of long-run equilibrium prices, or *prices of production*, which diverge from labour values in a predictable way. There are also divergences between surplus values and profits. However, in both cases there is a pattern.

The principle involved is a simple one:

So far as profits are concerned, the various capitalists are just so many stockholders in a stock company in which the shares of profit are uniformly divided per 100, so that profits differ in the case of the individual capitalists only in accordance with the amount of capital invested by each in the aggregate enterprise, i.e., according to his investment in social production as a whole, according to the number of his shares (*Capital* III:158).

The required transformation of values into prices of production and of surplus values into profits is carried out by Marx in the following manner. First the average rate of profit is worked out, as the ratio between aggregate surplus value and aggregate capital, constant plus variable. In our example this is  $(60)/(120 + 60) = 33 \frac{1}{3}$  per cent. Next the capital stock is calculated by adding constant and variable capital for each individual department. Since there is only circulating capital in this model, this also yields the departments's costs of production, or *cost price*\*. Then multiply each sector's cost price by the average rate of profit, to obtain the profits paid to its capitalists. Finally, add profits to cost price to find the price of production.

The outcome of these operations is presented in Table 6.1 as 'Marx's price system'. It will be seen that department I, with an above-average organic composition of capital, has a price of production in excess of its value: the ratio of price to value, shown in column 9, is 1.11. It also has profits greater than surplus value, as 33.3 exceeds 20. The reverse is true of department II, which has a relatively low organic composition: price of production is lower than value (a ratio of 0.78), and profits at 11.7 are less than the surplus value produced in the department, which is 25. The third department, carefully chosen with an organic composition equal to the average of the entire economy,  $(120)/(60) = 2$ , is evidently a special case. Here price of production equals value, and surplus value equals profits. Note, too, that the sum of values is equal to the sum of prices ( $120 + 60 + 60 = 133.3 + 46.7 + 60 = 240$ ), and the aggregate surplus value equals aggregate profits ( $20 + 25 + 15 = 33.3 + 11.7 + 15 = 60$ ).

\* In *TSV* Marx uses the term 'cost price' in the sense in which he writes of the 'price of production' in *Capital* III. In the latter, commodities sell at their cost price *plus* the average rate of profit. The difference is purely verbal.

These equalities are the basis for Marx's claim that the labour theory of value is required for the determination of prices of production and the rate of profit. All that is involved in the 'transformation' is a redistribution of surplus value from industries with a low organic composition to those with a high one. And the higher the rate of profit, the greater the redistribution (as was suggested in section 5.3.4). But the magnitudes to be redistributed are quantities of embodied labour. Values are logically prior to prices of production, and surplus values are prior to profits.

Marx took the argument further. The transformation of values into prices, he suggested, is not merely a formal problem of abstract economic theory. It is also a *historical* process. Only when competition is sufficiently strong, and the mobility of capital sufficiently vigorous, is the equalisation of profit rates between departments a possibility. Only then does the theoretical analysis of transformation have any social significance; in earlier stages prices and labour values are identical, and rates of profit differ between industries. 'The exchange of commodities at their values, or approximately at their values, thus requires a much lower stage [of historical development] than their exchange at their prices of production, which requires a definite level of capitalist development' (*Capital* III:177). This point carries more force when it is used to distinguish earlier and later stages of *capitalist* development, than when employed (most enthusiastically by Engels) to suggest that labour values governed prices in simple commodity production (see section 4.9). It is rather unlikely that markets were sufficiently developed, before the advent of capitalist competition, to establish any systematic correspondence between labour values and equilibrium (or, more accurately, customary) prices. This alleged historical dimension is not in any case central to Marx's argument.

Failure to appreciate the analytical importance of transformation led, in Marx's view, to a series of errors. The price of production of a commodity is the sum of its cost price and profits, which depend on the average rate of profit for the economy as a whole. Some economists mistakenly believed that the cost price was in fact the labour value of the commodity, to which profit was then added. Profit would then arise in exchange, through the sale of commodities in general at prices higher than their labour values. This is simply the Mercantilist position which Smith and Ricardo had criticised. Writers such as Proudhon and Torrens, Marx argued, had fallen into the same trap (*Capital* III:37-40).

Others, such as Longfield, seeing that the profits actually achieved by the individual capitalist were proportional to the total capital employed rather than to the variable component, and oblivious to the distinction between constant and variable capital, enshrined 'capital' as the source of profit, as a separate 'factor of production'. A nascent marginal productivity theory of income distribution emerged from this error:

It is then only an accident if the surplus-value, and thus the profit, actually produced in any particular sphere of production, coincides with the profit contained in the selling price of a commodity... [Surplus value] is of

importance to the latter only insofar as the quantity of surplus-value produced in his branch helps to regulate the average profit. But this is a process which occurs behind his back, one he does not see, nor understand, and which indeed does not interest him. The actual difference of magnitude between profit and surplus-value – not merely between the rate of profit and the rate of surplus-value – in the various spheres of production now completely conceals the true nature and origin of profit not only from the capitalist, who has a special interest in deceiving himself on this score, but also from the labourer. The transformation of values into prices of production serves to obscure the basis for determining value itself (*Capital* III:167–8).

Again, Marx argued, appearances conceal reality. The amount of profit accruing to any individual capitalist is not equal to the quantity of surplus value extracted from the workers employed by that capitalist. This is so only in the special case where the individual organic composition of capital is equal to the social average, as it is in department III in our example. In general equal capitals yield unequal surplus value, but equal profits. The individual capitalist is naturally led to attribute profit to the mysterious powers of 'capital', losing sight of the social origins of profit in surplus value, and surplus value in surplus labour. Even workers make the same mistake. They believe that every hour of work is paid labour and fail to see the unpaid part of the working day from which surplus value, and hence profit, is derived.

These comments were not directed specifically against Ricardo, for whose breadth and depth of vision Marx had great respect. None the less Ricardo, who 'doubtless realised that his prices of production deviated from the value of commodities', had not been able to reveal these differences in any thorough or coherent way (*Capital* III:179). He had thus failed to make a clear and explicit distinction between surplus value and profit, or to demonstrate that the latter is derived from the former. This had serious consequences for Ricardo's analysis of the falling rate of profit (*TSV* II:215–16, and below, section 6.3.1).

Ricardo's theory of profit also depended heavily on his analysis of rent. Until the middle of the third volume of *Capital* Marx explicitly abstracted from all features of capitalist society except the fundamental polarity between capitalist and worker.\* Only then did he introduce the landlord. His attack on the Ricardian theory of rent, which is based on his analysis of the transformation of values into prices, constituted Marx's fourth and final criticism of the classical theory of value.

#### 6.2.4 The theory of rent

*Four.* The last and apparently the decisive objection, unless it is advanced – as commonly happens – in the form of curious examples, is this:

\* See for example *Capital* III:49, and above, section 4.9. The structure of *TSV*, which deals with economists in roughly chronological order, required Marx to drop this abstraction in places. However, he was usually careful to make clear exactly what his assumptions were.

if exchange-value is nothing but the labour-time contained in a commodity, how does it come about that commodities which contain no labour possess exchange-value, in other words, how does the exchange-value of natural forces arise? This problem is solved in the theory of rent (*Critique*: 63; see also TSV II:247).

One of Ricardo's major achievements was to have shown that the existence of rent is not incompatible with the labour theory of value. The value of corn was determined by the quantity of labour needed to produce it under the least favourable conditions. Intra-marginal land, which requires a lower labour input to produce the same output of corn, yields rent to the landlords. The more fertile the land in relation to that at the margin of cultivation, the higher the rent. Rent is thus a purely differential payment, and no rent is paid at the margin. Ricardo thus denied that 'absolute rent' had any meaning.

Marx praised the logical consistency of this argument, which disposed of Smith's treatment of rent as one of the component parts of the value of corn (TSV II:130, 242, 347–53). He suggested, however, that it was too restrictive, for it made all rent out to be differential rent. According to Marx, however, it is perfectly possible for rent to be paid at the margin – for 'absolute rent' to exist – once the transformation of values into prices is taken into account. Marx believed agriculture to have a below-average organic composition of capital, so that the price of production of corn would be lower than its value. If the transformation of labour values into prices of production were to proceed unhindered in this sector, then the profits of capitalist farmers would be less than the surplus value produced in agriculture. This is the case in department II in Table 6.1.

Land is not, however, a commodity in the strict Marxian sense, for it cannot be reproduced by human labour. Mobility of capital will ensure that the rate of profit in agriculture will not be higher in the long run than in industry. But capital mobility cannot compel the sale of corn at its price of production:

those who derive rent from *monopoly* are right. Just as it is the *monopoly* of capital alone that enables the capitalist to squeeze surplus-labour out of the worker, so the monopoly of land ownership enables the landed proprietor to squeeze that part of surplus-labour from the capitalist, which would form a constant *excess profit*. But those who derive rent from monopoly are mistaken when they imagine that monopoly enables the landed proprietor to force the *price of the commodity above its value*. On the contrary, it makes it possible to maintain the *value of the commodity above its average price*; to sell the commodity not *above*, but *at* its value (TSV II:94).

An example of Marx's may help to illustrate his argument (TSV II:316). Suppose that industry and agriculture use the same total capital (100), but that it is divided between constant and variable components in different proportions: 80 : 20 in industry, and 60 : 40 in agriculture. If the rate of exploitation is 50 per cent, the labour value of the output of the two sectors will be:

$$\text{Industry} \quad 80c + 20v + 10s = 110$$

$$\text{Agriculture} \quad 60c + 40v + 20s = 120$$

Generally these values would be transformed into prices of production in such a way as to equalise the rate of profit in the two sectors. Both would sell at 115, and the same average rate of profit (15 per cent) would be paid in both. Agricultural output would sell at less than its labour value. But the land is fixed in supply and privately owned, so that the landlords are able to maintain the price of corn at a level equal to its value. Agricultural output thus sells at 120, rather than 115. The landlords take 10 of the 20 units of surplus value in rent. The capitalist farmers retain 10, giving them the same rate of profit (10 per cent) as their counterparts in industry. The price of corn has not been forced above its labour value by the private monopoly of the land and the consequent payment of rent. On the contrary, corn sells at a price equal to its labour value, and therefore higher than the price of production which would have prevailed had the transformation process applied in agriculture.

Several differences between Marx's theory of rent and that of Ricardo are apparent. Firstly, Marx is not forced to deny the possibility of 'absolute rent'. Differential rent can be built into the analysis along Ricardian lines, and Marx did so at considerable length. But it is not an essential feature of the argument (*TSV* II:18, 43). Secondly, a theory of increasing absolute rent does not require agricultural productivity to fall as accumulation proceeds. The lower organic composition on the farm means that the productivity of agricultural labour may rise more slowly than in industry, but it does still grow (*ibid*:18–19, 43, 243). Thirdly, while rent does not form part of the price of production of corn, it *is* a component of its actual selling price, which would otherwise equal the (lower) price of production. Thus, in terms of Marx's theory, Ricardo was wrong to argue that rent is price-determined rather than price-determining (*ibid*:316–18).

The implications of all this are considerable, not least for one's prognosis with respect to the future of landed property. For Marx, unlike Ricardo, the payment of rent 'is not a law of nature, but a social law' (*TSV* II:96). The landlord is a parasite upon capitalist society, and could be done away with – for example by the nationalisation of the land – without any adverse effects on the operation of the system as a whole (*ibid*:44). So far as absolute rent is concerned, it is the product of a particular set of historical circumstances and may disappear altogether if these circumstances change. '[Absolute] rent arises from an *historical difference* in the organic component parts of capital which may be partially ironed out and indeed disappear completely with the development of agriculture' (*TSV* II:105; see also *ibid*:93, 103, 244). As modern technology is applied more rapidly to agriculture, Marx argued, its organic composition might rise to the social average. Value would then be no greater than price of production, and absolute rent would no longer be paid.

A second implication concerns Marx's theory of income distribution

in a more general sense. For Marx the crucial distinction was between wages and surplus value, paid and unpaid labour:

Profit of capital (profit of enterprise plus interest) and ground-rent are thus no more than particular components of surplus-value, categories by which surplus-value is differentiated depending on whether it falls to the share of capital or landed property, headings which in no whit however alter its nature. Added together, these form the sum of social surplus-value (*Capital* III:821).

Part of the total surplus value accrues to the landlords as rent, and the remainder forms the profits of the capitalists. Part of the capitalists' profits are paid to financiers as interest; the residue is 'profit of enterprise' (*Capital* III:370–90). Marx's analysis is illustrated in Fig. 6.1. The essential point is that these categories are specific to capitalism, and are meaningless in other modes of production. The rate of interest, for Marx, was determined solely by the supply and demand for money capital. 'By the natural rate of interest, people merely mean the rate fixed by free competition. There are no "natural" limits for the rate of interest' (*Capital* III:356). The rate of interest is not considered to be a determinant of savings or the rate of accumulation.

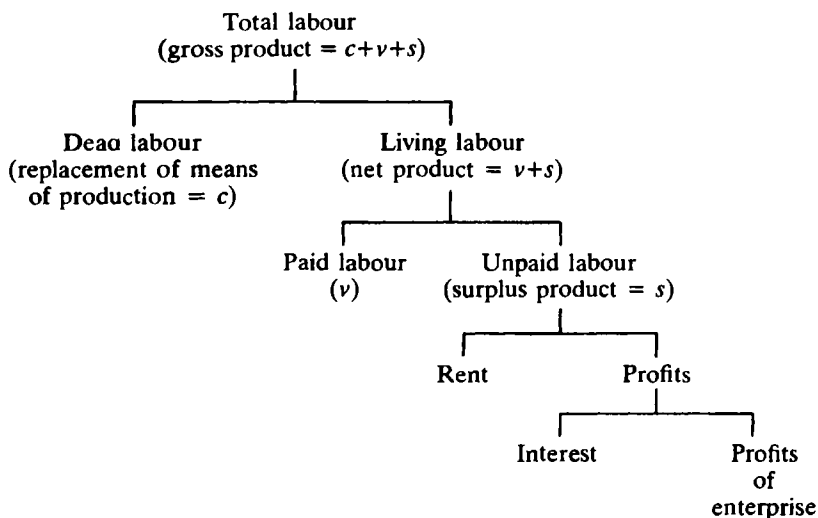


Fig. 6.1 The distribution of value and surplus value

But Marx was less interested in what might be termed the *quantitative* aspect of distribution, dealing with the proportions of the aggregate surplus value accruing to the various groups of claimants upon it. His main concern in criticising Ricardo was with the *qualitative* issues: tracing the production of surplus value through the performance of surplus labour by the proletariat, and its division between landlords and the various categories of capitalists (agricultural, industrial and financial). Here, he argued, classical political economy had gone seriously wrong. Like his theory of wages, Ricardo's analysis of rent was based on natural rather than on historical



laws. It relied on the innate characteristics of the land and its fertility rather than social relations of production.

It is true that Ricardo was never entirely consistent on this question, and at one point linked the origins of rent to the private ownership of the land, writing of 'the appropriation of land, and the consequent creation of rent' (Ricardo 1821:67). More typically, however, he attributed rent to the intrinsic properties of the soil: 'the labour of nature is paid, not because she does much, but because she does little. In proportion as she becomes niggardly in her gifts, she exacts a greater price for her work' (*ibid.*:76). It would be difficult to wish for a better example of commodity fetishism, ascribing to the characteristics of material objects phenomena which are in reality the product of social relations.

Whatever his own intentions, Ricardo had thus laid the foundations of the productivity approach to distribution, in which productive power of physical objects – 'capital', defined fetishistically as the produced means of production, and land – provides the key to understanding property incomes. The basic error here lies in the use of ahistorical natural laws to explain distributional categories which are historically specific to capitalism. Marx criticised the 'Holy Trinity' theory of income distribution on these grounds:

In capital-profit, or still better capital-interest, land-rent, labour-wages, in this economic trinity represented as the connection between the component parts of value and wealth in general and its sources, we have the complete mystification of the capitalist mode of production, the conversion of social relations into things, the direct coalescence of the material production relations with their historical and social determination. It is an enchanted, perverted, topsy-turvy world, in which Monsieur le Capital and Madame la Terre do their ghost-walking as social characters and at the same time directly as mere things. It is the great merit of classical economy to have destroyed this false appearance and illusion, this mutual independence and ossification of the various social elements of wealth, this personification of things and conversion of production relations into entities, this religion of everyday life. It did so by reducing interest to a portion of profit, and rent to the surplus above average profit, so that both of them converge into surplus-value; and by representing the process of circulation as a mere metamorphosis of forms, and finally reducing value and surplus-value of commodities to labour in the direct production process. Nevertheless even the best spokesmen of classical economy remain more or less in the grip of the world of illusion which their criticism had dissolved, as cannot be otherwise from a bourgeois standpoint, and thus they all fall more or less into inconsistencies, half-truths and unsolved contradictions (*Capital* III:830).

The links between the analysis of distribution and the classical theory of economic development were so close that this criticism could not fail to be applicable also to the latter.

### 6.3 The theory of economic development

Marx concentrated his attention on two aspects of the classical theory of economic development. He first criticised the Ricardian analysis

of the declining tendency of the rate of profit, and proposed an alternative explanation. Then he attacked the validity of Say's Law in a capitalist (as opposed to a pre-capitalist) economy, using his argument to lay the foundations for a theory of economic crises.

### 6.3.1 *The declining rate of profit*

Marx did not doubt that the falling rate of profit was an actual long-run tendency in capitalist economies. The problem was to explain this tendency, and to assess its consequences; the classical economists had done neither to Marx's satisfaction. His own analysis was based on precisely those criticisms of the classical theory of value, and their methodological underpinnings, which we have already outlined. Marx's attack on Ricardo began with his treatment of value:

I have already shown that Ricardo's view of rent is wrong. This then cuts out one of the grounds for his explanation of the fall in the rate of profits. But, secondly, it rests on the false assumption that the *rate of surplus-value* and the *rate of profit* are identical, that therefore a fall in the rate of profit is identical with a fall in the rate of surplus-value, which in fact could only be explained in Ricardo's way. And this puts an end to his theory. The rate of profit falls, although the rate of surplus-value remains the same or rises, because the proportion of variable capital to constant capital decreases with the development of the productive power of labour. The rate of profit thus falls, not because labour becomes less productive, but because it becomes more productive (TSV II:439; cf. *ibid.*:463–4).

Ricardo had failed to distinguish constant from variable capital. In effect, he had assumed all capital to be variable, thereby conflating the rate of profit

$r = \frac{\sum s_i}{\sum (c_i + v_i)}$  with the rate of exploitation,  $e = \frac{s_i}{v_i} = \frac{\sum s_i}{\sum v_i}$ . The summation signs here mean simply that  $c$ ,  $v$  and  $s$  are totals for the three departments I, II and III. Ricardo's account of the tendency for the rate of profit to decline was really only an analysis of the reasons why there might be a fall in the rate of exploitation.

The rate of surplus value may decline because of a decrease in  $s$ , for example due to a reduction in the length of the working day or in the intensity of labour. But Ricardo did not deal explicitly with these factors. Only an increase in variable capital remains to be considered. This will happen only if wages rise, that is, only if the value of labour power increases. For Ricardo food was the most important means of subsistence. His theory thus hinged upon increases in the labour value of food, which were possibly only if more labour was needed to produce it. Thus Ricardo's explanation of the declining rate of profit relies on a decline in the productivity of agricultural labour, so that an ever-increasing proportion of the working day must be devoted to producing the labourers' means of subsistence.

Marx's analysis was quite different. He expected the technical development of modern industry to generate a steady increase in the organic composition of capital, swelling the ranks of the industrial reserve army of the unemployed. The rate of profit can be expressed as a relationship

between the rate of exploitation and the organic composition. Marx argued that there is a tendency for the organic composition to increase more rapidly than the rate of exploitation, so that  $r$  must decline. This can be explained in algebra (omitting suffixes and summation signs for simplicity). We know that  $r = s/(c+v)$ . Divide both sides of this fraction by  $v$ , to get  $r = (s/v)/(c/v + 1)$ . The rate of exploitation can be written as  $e = s/v$ , and the organic composition as  $k = c/v$ . Thus  $r = e/(k + 1)$ . If  $k$  rises faster than  $e$ , then  $r$  declines. But this would be the result of an *increase* in the productivity of labour, not (as Ricardo suggested) of a decline. A rising organic composition means an increasing ratio of dead to living labour: in a given length of time workers transform more and more raw materials and machinery into more products than before. Thus Marx reversed the classical view of the falling rate of profit, basing it upon increasing rather than decreasing productivity.

Marx's argument rests, in part, on a realistic appraisal of the actual tendencies of capitalist production. Agriculture was no longer the dominant sector that Ricardo made it out to be. Moreover the productivity of farm labour was rising, not falling, and he thought it might eventually increase even faster than in industry (*TSV* II:109–10). But Marx's critique of Ricardo also had a methodological foundation. Ricardo's analysis relied upon ahistorical natural laws, predicting from them the eventual inevitability of a stationary state.

The early socialists were bitterly critical of Malthus – and by implication of Ricardo too – on exactly this point. They argued that it was capital, not nature, which hindered the prospects of social improvement. For Marx, too, the classical economists had failed to appreciate both the contradictions and the potential of capitalism.

Those economists, therefore, who, like Ricardo, regard the capitalist mode of production as absolute, feel at this point that it creates a barrier itself, and for this reason attribute the barrier to Nature (in the theory of rent), not to production. But the main thing about their horror of the falling rate of profit is the feeling that capitalist production meets in the development of its productive forces a barrier which has nothing to do with the production of wealth as such; and this peculiar barrier testifies to the limitations and to the merely historical, transitory character of the capitalist mode of production; testifies that for the production of wealth, it is not an absolute mode, moreover, that at a certain stage it rather conflicts with its further development (*Capital* III:242).

The economic problems of capitalist society had nothing to do with the physical laws of the universe, but were the result of its own character as a distinct mode of production, and would be overcome if society were organised along different lines. In fact the life-span of capitalism was finite, for its economic contradictions would ensure its replacement by another type of social order which would not suffer from these problems.

The bourgeois mode of production is the last antagonistic form of the social process of production – antagonistic not in the sense of individual antagonism but of an antagonism that emanates from the individuals' social conditions of existence – but the productive forces developing within bour-

geois society create also the material conditions for a solution of this antagonism. The prehistory of human society accordingly closes with this social formation (*Critique*:21).

Capitalism would not stagnate. It would be transformed, through the revolutionary action of the proletariat, into a classless society.

### 6.3.2 *Say's Law*

The same methodological objection was at the heart of Marx's attack on Say's Law. The law itself has been variously interpreted. Here we use the term in the rather special sense in which it was often employed by Marx; namely, the proposition that there exists an automatic endogenous mechanism which guarantees a level of aggregate demand sufficient to realise, in its entirety, the surplus value embodied in commodities when they are brought to the market (see, however, Chapter 13). In the context of the circulation process  $M - C - C' - M'$  (above, p. 47), this is equivalent to the assertion that under all circumstances  $M' = C'$ . It is important to note that for Marx this is *not* inconsistent with general and sustained unemployment. The factors which produce the industrial reserve army are independent of the level of aggregate demand. If Say's Law fails, unemployment will ensue. But there can be unemployment even if Say's Law holds.

In his analysis of technical change Marx implicitly assumed Say's Law to operate, but he did so only in order to show that the problems created by technical change are independent in logic of generalised crises of overproduction produced by deficient aggregate demand. It did not prevent him from dismissing the law itself as 'childish babble' (*TSV* II:502). The first line of attack was an empirical one: crises of general overproduction were too striking and too regular a feature of nineteenth-century capitalism to be ignored or treated as the result of random or accidental disturbances. Ricardo's error was mitigated by the relatively early period in which he wrote, when the trade cycle was very much in its infancy.\* But his theoretical mistakes were later uncritically adopted as a means of denying the very possibility of economic crises (*TSV* II:497).

Say's Law was in fact the object of sustained criticism in the second quarter of the century, from both radical and conservative writers. Among the most vocal of its opponents were the Ricardian socialists. They insisted that deficiencies in aggregate demand were inevitable in a society where competition ensured that there would be incessant downward pressure on the wages, and hence on the purchasing power, of the working class. Marx's criticism of Say's Law was more systematic, if no less intense. In a barter economy, he argued, it is inevitably true that 'supply creates its own

\* As we saw earlier, Ricardo dealt with the manufacturing stage of capitalist production, rather than with modern industry (above, section 5.2). The pace of accumulation and of technical and structural change was much slower in this earlier stage, and the first truly modern industrial cycle did not begin until the great slump of 1825 (*Capital* I:14; this is Marx's 'Afterword' to the second German edition, written in 1872).

demand'. In such an economy 'no one can be a seller without being a buyer or a buyer without being a seller' (TSV II:509). Since there is by definition no money, products can only be exchanged for other products, and the same act is simultaneously one of supply *and* demand. But this type of exchange takes place only in primitive economies where production is undertaken primarily to meet the subsistence needs of the producers:

In direct barter, the bulk of production is intended by the producer to satisfy his own needs, or, where the division of labour is more developed . . . needs that are known to him. What is exchanged as a commodity is the surplus and it is unimportant whether this surplus is exchanged or not (*ibid.* II:508–9).

In such an economy, market production is insignificant.

Once the bulk of production is undertaken for the market, for exchange rather than for personal consumption, money begins to be used. It is now possible to sell without buying, and to hoard the proceeds of a sale instead of instantly buying other commodities. Supply no longer creates its own demand, and aggregate demand may fall short of aggregate supply.

At a given moment, the supply of all commodities can be greater than the demand for all commodities, since the demand for the *general commodity*, money, exchange-value, is greater than the demand for all particular commodities, in other words the motive to turn the commodity into money, to realise its exchange-value, prevails over the motive to transform the commodity again into use-value (TSV II:505).

In other words 'the possibility of crises therefore lies solely in the separation of sale from purchase' which is introduced when money acts as the intermediary in the majority of transactions (*ibid.*:508). Crises are *possible* even in simple commodity production.

But they are not at all probable. Marx repeatedly stressed that the possibility of crises does not entail their actual occurrence. In practice it is not until quite late in the development of capitalism, and long after the emergence of a largely monetised economy, that crises occur (*ibid.*: 512). Though possible in simple commodity production they are extremely unlikely, since the motive for production is similar to that in a barter economy, namely, use value. Furthermore, technical change will be relatively gradual, so that established patterns of trade are changed only slowly. Sale and purchase are formally separated, but they are in practice directly and intimately related.

Capitalism is quite different. Control over the production of commodities has passed into the hands of a minority class whose essential aim is profitable accumulation:

It must never be forgotten, that in capitalist production what matters is not the immediate use-value but the exchange-value and, in particular, the expansion of surplus-value. This is the driving motive of capitalist production, and it is a pretty conception that – in order to reason away the contradictions of capitalist production – abstracts from its very basis and depicts it as a production aiming at the direct satisfaction of the consumption of the producers (TSV II:495).

In contrast both to barter economies and to simple commodity production, exchange value and not use value now dominates production. This generates strong forces making for the accumulation of capital, associated with which is technical change and, therefore, the constant disruption of established economic conditions.

This argument can be represented slightly differently, in terms of a change in the form of the circulation process. In capitalism circulation takes the form  $M - C - C' - M'$  rather than the  $C - M - C$  of simple commodity production. The petty commodity producer works on one type of commodity in order to exchange it for another; money is only a means to facilitate transactions which are themselves relatively stable. In capitalism the difference between  $M'$  and  $M$  determines whether production is continued, expanded or curtailed. Without the prospect of profit, the capitalist will not make purchases. And in advanced capitalism an important source of demand is not only personal consumption, but *productive consumption* by capitalists to replace and expand and revolutionise the means of production. Consequently the very dynamics of capitalist accumulation disrupt the circulation process in a way not experienced under conditions of simple commodity production.

Marx concluded that, in order to dismiss the possibility of periodic crises of overproduction, Ricardo and his followers were forced to deny the existence of capitalism itself (TSV II:500–1). Crises actually were impossible in barter economies, and would be avoided by conscious social regulation in a communist society. Without realising it, Ricardo was setting out the macroeconomics of a moneyless, pre- or post-capitalist economy. He himself appeared to believe that the economic laws of capitalism applied to *all* modes of production:

All the objections which Ricardo and others raise against over-production etc. rest on the fact that they regard bourgeois production either as a mode of production in which no distinction exists between purchase and sale – direct barter – or as *social* production, implying that society, as if according to a plan, distributes its means of production and productive forces in the degree and measure which is required for the fulfilment of the various social needs, so that each sphere of production receives the *quota* of social capital required to satisfy the corresponding need. This fiction arises entirely from the inability to grasp the specific form of bourgeois production and this inability in turn arises from the obsession that bourgeois production is production as such, just like a man who believes in a particular religion and sees it as *the* religion, and everything outside of it only as *false* religions (TSV II:528–9).

In other words, Ricardo proved unable to specify the difference between capitalism and other modes of production, and therefore could not clearly express the essential characteristics of capitalism itself. Least of all was he able to recognise that 'the bourgeois mode of production contains within itself a barrier to the free development of the productive forces' (TSV II:528). Thus in Marx's view, Ricardo's mistaken espousal of Say's Law stemmed from the same methodological errors which underlay his faulty analysis of the falling rate of profit.

## 6.4 Conclusion

In this chapter we have shown how Marx tried to expose four fundamental errors in the classical theory of value. We have suggested that a profound methodological criticism lies behind each of Marx's arguments, and that this same criticism is involved in his attack on the classical theory of economic development. While he drew heavily on classical economics, and especially on Ricardo, Marx was never slow to attack the empirical implausibilities, logical defects and methodological weaknesses that he saw there. The body of economic theory which emerged from this critique was different in many respects from that which he had inherited from classical political economy. In the following chapters we develop the account of Marx's own economic theory which we have already outlined, and expose it to the criticisms which it has incurred over the last century. We begin with the Marxian theory of value.

## Appendix I: Ricardo on values and prices

Ricardo (1821:37) uses the following example to illustrate the difficulties presented by differences between industries in the ratio of fixed to circulating capital. At an annual wage of £50 a capital of £2,000 will employ forty workers for a year, perhaps as agricultural labourers. An equal capital will employ twenty labourers for two years, possibly spending the first year in building a machine and the second year in operating it. The labour value of output is the same in both cases, since the same forty years of labour have been spent in each activity. But equilibrium prices must be different if the two capitals are to yield the same profits. If the output of agriculture sold for £2,200 the farmer would receive a rate of profit of  $(£(2,200 - 2,000)/(2,000) = 10$  per cent on a one-year investment of circulating capital, assuming that there is no rent to be paid. The industrial capitalist has made a two-year investment of both fixed and circulating capital, and would obtain the lower rate of profit of 6.5 per cent if industrial output were also to sell at £2,200:  $£(1,000) (1.065)^2 + £(1,000) (1.065) = £2,200$  approximately. Capitalists would move from industry to agriculture in search of higher profits, and the relative price of farm produce would fall. The two commodities would then no longer exchange at a ratio equal to their relative labour values.

## Appendix II: Transformation with fixed capital – Marx's example

The numerical example in Table 6.2 is taken from *Capital* III:155–7. We have made two minor alterations to the figures to represent simple reproduction as in Table 6.1. Industries 3 and 4 produce means of production, and constitute department I; industries 1 and 5, which produce means of subsistence, make up department II; and industry 2 produces a luxury commodity, and forms the third department. Equal quantities of capital are employed in

Table 6.2 The transformation of values into prices

Industry	(1) Constant capital employed (c)	(2) Variable capital employed and used up (v)	(3) Total capital employed (c+v)	(4) Rate of exploit- ation (s/v) (%)	(5) Surplus value (s)	(6) Constant capital used up (cc)	(7) Value (cc+v+s)	(8) Cost price =(6)+(2)+(5)	(9) Profits at 22% =(8)+(2)	(10) Price of produc- tion =(8)+(9)	(11) Price minus value =(10)-(7)	(12) Profits minus surplus value =(9)-(5)
1	80	20	100	100	20	50	90	70	22	92	+ 2	+ 2
2	70	30	100	100	30	50	110	80	22	102	- 8	- 8
3	60	40	100	100	40	52	132	92	22	114	-18	-18
4	85	15	100	100	15	40	70	55	22	77	+ 7	+ 7
5	95	5	100	100	5	10	20	15	22	37	+17	+17
Total	390	110	500	—	110	202	422	312	110	422	0	0



each industry, but they differ both in organic composition and in the proportions of fixed and circulating capital employed. The organic composition varies from  $(95)/(5) = 19$  in industry 5 to  $(60)/(40) = 1.5$  in industry 3. The average organic composition is  $(390)/(110) = 3.55$ , with industries 1, 4 and 5 above this figure and industries 2 and 3 below it.

Not all the constant capital employed is used up in the course of a year's production, as was the case in the example analysed in the text. Fixed as well as circulating capital is now employed, as shown by the 'durability coefficient'  $\alpha$ . In industry 1, for example, only fifty of the eighty units of constant capital are used up in a year, so that  $1/\alpha = 1.6$ . This can be interpreted, ignoring raw materials, as the life of machinery measured in years. It is assumed for simplicity that all circulating capital lasts for exactly one year. Strictly speaking this means that capitalists must start production with a full year's wages in hand, but shorter turnover periods can be incorporated without undue difficulty. There is again a common rate of exploitation of 100 per cent.

Marx's analysis of transformation is only slightly more complicated in this example than in the case discussed in the text. Values are now calculated as  $\alpha c + v + s$  (column 7), and cost prices as  $\alpha c + v$  (column 8). Rates of profit are derived by dividing surplus value by the total capital *employed*, and not by capital *used up*, in each industry (so that  $r_i = s_i/(c_i + v_i)$ , not  $s_i/(\alpha c_i + v_i)$ ). The rates of profit in individual industries range from 5 per cent in industry 5 to 40 per cent in industry 3. The average rate of profit, calculated as before, is  $(110)/(500) = 22$  per cent. When distributed according to the capital of 100 employed in each industry, this gives uniform profits of 22. Adding profits to cost price gives price of production (column 10). As expected, price exceeds value and profits exceed surplus value in those industries with an above-average organic composition, and vice versa. This time there is no industry with the average organic composition, and hence none without a divergence between value and price. In aggregate, prices of production equal values (at 422), and profits equal surplus value (at 110).

### Reading guide

Considering its early date, Engels's 1843 *Outlines of a Critique of Political Economy* (EPM:197–226) is remarkably perceptive. Marx's own criticisms of classical political economy were developed simultaneously with his exposition of their analysis, so that many of the references cited in the reading guide to the previous chapter will be helpful. The first part of the *Critique* (pp. 27–63) is valuable, the remainder of the book much less so. On the theory of wages, *Wages, Price and Profit* (SW II:31–76) and *Capital I*:Chs XIX–XXI and XXV may also be consulted. The best brief version of Marx's theory of exploitation is in *Wage Labour and Capital* (SW I:142–74; see also *Capital I*:Pts III–V). The first glimpse of Marx's analysis of transformation is found in the *Grundrisse*:435–6, in a passage written in

December 1857 or January 1858. It was very clearly posed in a letter to Engels in August 1862 (SC:128–33), and developed at length in an attack on Ricardo in *TSV* II:173–216, written in 1862 or early 1863. He poses and attempts to solve the transformation problem in *Capital* III:Chs VIII–XII, and dissects Ricardo's shortcomings in *TSV* II:173–216. The theory of rent seems to have caused Marx considerable difficulty, judging by the lengthy, repetitive and often very unclear passages on the subject in *Capital* III:Pt. VI. Probably the best source on rent is the critique of Ricardo in *TSV* II:Chs XI and XIII. On the falling rate of profit see *Capital* III:Chs XIII–XV, which follow on directly from Marx's discussion of the transformation problem. His criticism of the classical account of the falling rate of profit is in *TSV* II:Ch. XVI. Easily the best version of Marx's critique of Say's Law is in *TSV* II:Ch. XVII.

A lucid and perceptive account of the passage in the *Critique* cited in section 5.2 is given by Shoul (1967). Steedman (1982) suggests that much of Marx's critique of the Ricardian theory of value is misplaced. Also of interest is Rankin (1980). For differences between Marxian and classical theories of wages, see Baumol (1979). On the specific question of the so-called 'historical transformation problem' the classic reference is Hilferding (1904); see also Meek (1973: introduction; 1976b) and Morishima and Catephores (1975, 1976). Oakley (1976) is useful on more general questions of the transformation in Marx's writings.

Marxian and classical theories of economic crisis are compared by Shoul (1957), Sowell (1967, 1972) and Tsuru (1976). Marx's debt to the Ricardian socialists is assessed by King (1983), while King (1981) indicates the breadth of early working-class opposition to Say's Law. A number of writers have suggested that Marx owed more to the Ricardian theory of economic development than he was prepared to concede (Balassa, 1959; Perelman, 1981; Walker, 1971).

### **Part III**

## **Value and exploitation**

The theories of value and exploitation have always been the most controversial aspects of Marx's political economy. In the following four chapters we look at the contentious questions. Chapter 7 investigates the problems posed by the unique character of labour as a human activity, and by labour power as a very special commodity. These issues would be important even if there were no need to distinguish between values and prices of production, or between surplus value and profits. In Chapter 8 we return to this distinction and reconsider the transformation problem, completing Marx's solution and assessing its limitations. As in previous chapters, the argument here is concerned exclusively with single-process, single-product industries. The complications which result from joint production, and from the existence of alternative technical possibilities of production, are considered in Chapter 9. Finally, Chapter 10 asks whether it is possible to substantiate Marx's claim that the labour theory of value is necessary for a full understanding of capitalism.

## Chapter 7

# Labour problems

### 7.1 Introduction

This chapter deals with a number of problems in Marx's analysis of that special commodity, labour power, and the human activity of labour. Marx's theory of wages and his discussion of the length of the working day are assessed in section 7.2. This is followed by a consideration of heterogeneous labour: workers are not identical in skill or ability, and the implications of these differences are explored in section 7.3. For Marx labour itself was a two-dimensional activity, its intensity being no less important than its duration. Some of the issues raised by Marx's analysis of the capitalist labour process are discussed in section 7.4. Finally, section 7.5 is concerned with the problem of how to distinguish productive from unproductive labour.

### 7.2 Wages, working hours and the rate of exploitation

Marx identified four determinants of the rate of exploitation (rate of surplus value;  $s/v$ ): the level of technical development, the intensity of labour, the real wage and the length of the working day. The rate of exploitation is increased by technical progress in industries which, directly or indirectly, produce commodities for workers' consumption, because it reduces the labour time necessary to produce a given quantity of wage-goods. Increasing work intensity has a similar effect. Higher real wages, on the other hand, reduce the rate of surplus value, since necessary labour is increased. Finally, a *ceteris paribus* increase in the length of the working day raises the rate of exploitation by allowing the performance of more surplus labour for a given amount of necessary labour. This section is concerned exclusively with the third and fourth of these factors, that is, with Marx's theory of wages and of the duration of the working day. We return to the question of work intensity in section 7.4, while technical change is discussed in some detail in Chapter 12.

For Marx wages tend to be equal to the value of labour power,

which is defined as the quantity of labour needed to produce the workers' means of subsistence (above, p. 49). This need not entail the 'immiseration' of labour in any absolute sense. In the *Communist Manifesto* Marx and Engels do argue that the long-run trend is for real wages to decline (SW I:119), but nothing as explicit and unambiguous as this can be found in their later writings.\* In fact Marx was a stern critic of Lassalle's 'iron law of wages', denied that workers would necessarily be deprived of all but a bare physiological minimum, and insisted instead on the importance of the 'historical and moral element' in the value of labour power (*Capital* I:171).

It is often argued, indeed, that Marx's concept of the real wage referred to the *share* of wages in net output. On this interpretation 'immiseration' is a relative concept, as is suggested in one famous passage by Marx himself:

A house may be large or small; as long as the surrounding houses are equally small it satisfies all social demands for a dwelling. But let a palace arise beside the little house, and it shrinks from a little house to a hut. The little house shows now that its owner has only very slight or no demands to make; and however high it may shoot up in the course of civilisation, if the neighbouring palace grows to an equal or even greater extent, the occupant of the relatively small house will feel more and more uncomfortable, dissatisfied and cramped within its four walls (SW I:163).

Clearly it is possible on this argument for real wages to increase, but less rapidly than the productivity of labour. (Real wages are here defined in the modern sense, as the money wage of homogeneous labour deflated by an appropriate price index.) In this case the rate of exploitation would rise, and workers' living standards would be higher in absolute terms but lower in relation to the incomes of the capitalists. If Marx's argument is accepted, then workers would feel worse off while consuming more than they had previously been able to do.

Historically, this argument is open to the objection that real wages have if anything risen, over the century since Marx's death, a little faster than the productivity of labour, so that wages have increased somewhat in relation to profits. (As will be seen in section 7.4, however, this cannot be taken as decisive evidence that the rate of surplus value has fallen, since the further question of productive and unproductive labour must first be resolved.) Analytically, Marx's position is equally contentious, and this for two reasons. Firstly, when formulated in this relativistic way it is very easy for Marx's theory of wages to degenerate into a tautology. The possibility ought at least to be considered that real wages now exceed the value of labour power, so that workers as well as capitalists have a share in the

\* There is one place in *Capital* I:644–5 where Marx does insist on the increasing misery of the workers. But this is part of a discussion of the plight of the unemployed, and is usually taken to refer only to this unfortunate minority of the proletariat. Of course, to the extent that unemployment is something that is suffered increasingly by most workers in the course of their working lives, any such immiseration would have a wider significance.

surplus product. But if the value of labour power is *defined* in terms of the level of real wages, there is no way in which this can be done.

The second analytical problem is closely related to the first. In capitalist society labour power is the only commodity which is not produced by capitalists for profit. Its price (that is, the real wage) is therefore brought into equality with its value in a rather special way. It is, according to Marx, the unrelenting pressure of the reserve army of the unemployed that prevents wages from rising, for any appreciable time, above the value of labour power. Should not this same reserve army also render impossible the sort of increase in the 'historical and moral element' in conventional subsistence levels that would be required to explain the fourfold increase in real wages since 1883?

This suggests a major deficiency in Marx's economic analysis, and as we shall see in Chapter 12, the theory of the industrial reserve army is open to serious criticism. But the most common Marxist response to the problem of rising real wages is to argue that trade unions have been able to overcome the effects of unemployment, and that increased real wages thus reflect the substantial and growing bargaining power of the organised working class. Taken in isolation, the following passage from *Wages, Price and Profit* (delivered as a lecture in 1865 to the General Council of the First International) appears to support the claim that Marx had a bargaining theory of wages :

But as to *profits*, there exists no law which determines their *minimum*. We cannot say what is the ultimate limit of their decrease. And why cannot we fix that limit? Because, although we can fix the *minimum* of wages, we cannot fix their *maximum*. We can only say that, the limits of the working-day being given, the *maximum* of profit corresponds to the *physical minimum of wages*; and that wages being given, the *maximum of profit* corresponds to such a prolongation of the working-day as is compatible with the physical forces of the labourer. The maximum of profit is, therefore, limited by the physical minimum of wages and the physical maximum of the working day. It is evident that between the two limits of this *maximum rate of profit* an immense scale of variations is possible. The fixation of its actual degree is only settled by the continuous struggle between capital and labour, the capitalist constantly tending to reduce wages to their physical minimum, and to extend the working day to its physical maximum, while the working man constantly presses in the opposite direction.

The matter resolves itself into a question of the respective powers of the combatants (SW II:72-3).

Taking the lecture as a whole, however, Marx's assessment of the economic role of trade unions was a much more cautious one. In the first place, trade union activity was viewed as very largely defensive. 'In 99 cases out of 100 their efforts at raising wages are only efforts at maintaining the given value of labour [power]' (SW II:75). Unions might therefore be able to prevent the permanent depression of wages below the value of labour power, which Marx saw as an otherwise chronic tendency in an early capitalism which lacked sufficient foresight to pay enough to reproduce its supplies of labour power for future generations. They might ensure that

wage gains in years of prosperity would offset losses in years of depression, so that on average wages were maintained in equality with the value of labour power (*ibid.*:69–70). More than this Marx did not expect. He saw the strike as a ‘test’ of ‘the real state of demand and supply’ in the market for labour power, and not as superseding the operation of supply and demand.

This was no aberration on Marx’s part. In 1853, describing for a North American audience the start of the great strike of cotton operatives at Preston, he argued in similar vein:

Now, what did the strikes prove, if not that the workmen preferred applying a mode of their own of testing the proportion of the supply to the demand rather than to trust to the interested assurances of their employers? Under certain circumstances, there is for the workman no other means of ascertaining whether he is or not paid to the actual market value of his labour, but to strike or to threaten to do so. . . . The constant success of these strikes [earlier in 1853], while it generalized them all over the country, was the best proof of their legitimacy, and their rapid succession in the same branch of trade, by the same ‘hands’ claiming fresh advances, fully proved that according to supply and demand the work-people had long been entitled to a rise of wages, which was merely kept from them on account of their being ignorant of the state of the labour market (*MECW* 12:332–3).

In 1845 Engels had described the history of the British trade unions as ‘a long series of defeats of the working-men, interrupted by a few isolated victories’. They were powerless to ‘alter the economic law according to which wages are determined by the relation between supply and demand in the labour market’ (*CWCE*:243). Any successes would be only temporary, for strikes frequently provoked capitalists to search for labour-displacing innovations like the self-acting spinning mule (*Capital* I:435–6).

For Marx the primary significance of strikes had nothing to do with wages. ‘As schools of war, the Unions are unexcelled’ (*MECW* 4:505–7, 512). In other words, the ‘moral and political consequences’ of strikes were vastly more important than ‘the apparent insignificance of their economical results’. Without constant warfare between masters and men, ‘the working-classes of Great Britain, and of all Europe, would be a heart-broken, a weak-minded, a worn-out, unresisting mass, whose self-emancipation would prove as impossible as that of the slaves of Ancient Greece and Rome’ (*MECW* 12:169).

Marx’s position was quite different with respect to the length of the working day. This final (and extremely important) determinant of the rate of exploitation can certainly be influenced by class bargaining power:

As to the *limitation of the working-day* in England, as in all other countries, it has never been settled except by *legislative interference*. Without the working men’s continuous pressure from without that interference would never have taken place (*SW* II:73).

Marx refers here to the mass movement for factory reform that had forced through the great Ten Hours Act of 1847, defended it against the cotton manufacturers’ attempted evasions, and won subsequent improvements and

extensions in the legal protection of factory workers. Unlike the struggle over wages, this victory did not require an unqualified defeat for the capitalists:

Apart from the working-class movement that daily grew more threatening, the limiting of factory labour was dictated by the same necessity which spread guano over the English fields. The same blind eagerness for plunder that in the one case exhausted the soil, had, in the other, torn up by the roots the living force of the nation (*Capital* I:239).

And there was a price to pay for the limitation of the working day: the intensity of labour increased as its duration declined (*ibid.*: 409–11).

To conclude: Marx argued that the production of surplus value can be influenced by trade union activity, although real wages cannot. Only to this extent (and only, be it noted, in the political arena rather than at the workplace), does class bargaining power affect the rate of exploitation. And even this proved possible, Marx argued, only because the viability of the capitalist system itself was threatened by the capitalists' 'blind eagerness for plunder'. He did not anticipate the very substantial increase in real wages which has occurred since he wrote *Capital*, and his theory of wages is incapable of explaining it.

### 7.3 The 'labour reduction' problem

Values are units of socially necessary abstract labour, and are unambiguous only as long as labour is homogeneous. Once workers do different jobs it becomes necessary to 'reduce' each type of labour to a common standard, that is, to render it commensurable with all other forms of work. There are two dimensions to this *labour reduction problem*, because it is possible to distinguish two senses in which labour may be said to be heterogeneous. The first is a simple corollary of the social division of labour: deer-hunting and beaver-hunting are distinct activities, like the work of Marx's tailors and shoemakers. With the development of commodity production in general, and capitalism in particular, people come increasingly to specialise in more and more detailed jobs. In this case, however, there is no reason to suppose that one type of labour must be regarded as 'worth more' than any other. Different *concrete* labours can be treated as identical *abstract* labour. An hour of tailoring creates as much value as an hour of shoemaking. No more and no less.

The second aspect of labour heterogeneity is much more troublesome. The various forms of labour often involve unequal degrees of skill. An hour of work by a skilled worker, for example, is generally supposed to 'count for' more than an hour of labour performed by an unskilled labourer. Similarly, the value of a commodity produced by a group of workers with differing degrees of skill must be calculated as a weighted average of the hours worked by each of them. What, then, determines the weights? Marx's answer is simple and direct:



All labour of a higher or more complicated character than average labour is expenditure of labour-power of a more costly kind, labour-power whose production has cost more time and labour, and which therefore has a higher value, than unskilled or simple labour-power. This power being of a higher value, its consumption is labour of a higher class, labour that creates in equal times proportionately higher values than unskilled labour does (*Capital I*:197).

More highly skilled workers require a longer period of training than the less skilled. Their labour power therefore has a greater value, since more labour has been embodied in it in order to maintain them during training. This is why skilled labour 'counts for' more than the labour of the unskilled.

Marx believed that this process of reduction of complex to simple labour could be discerned in the market-place, where wage differentials between workers of varying levels of skill could be very largely explained by variations in the amount of labour needed to produce them. The argument is as old as Adam Smith (1776:112–13). It is not, as is often claimed, a circular one. Marx was not claiming that an hour of a mechanic's time was worth more than an hour of a labourer's work *because* the former is paid a higher wage. On the contrary, the wage differential is the effect, not the cause.

There are really *two* labour reduction problems. One concerns the determination of the weights which must be applied to labour of 'a higher or more complicated character than average' in order to 'reduce' labour of different skills to a common unit which defines value; and to this question Marx's answer is quite satisfactory. The other issue is the extent to which this principle also furnishes an explanation of equilibrium wage differentials, and here Marx's argument is much less convincing. There are several reasons for doubting the extent to which pay relativities reflect variations in the values of different types of labour power. Three will be discussed in this section.

First, it should be noted that training can be financed either by capitalists or by workers. If the capitalist pays a wage in excess of the trainee's immediate capacity to create value, the rate of exploitation of that individual will in the short run be unusually low, and may even be negative. The capitalist will undertake such an investment only in the expectation of obtaining higher profits in the longer term, once the trainee is fully productive. For such workers, wages will then be less than the value of their labour power. But their skilled labour still counts for more than that of the unskilled, even if they are not rewarded accordingly. Employer-financed training means that wage differentials understate differences in the value of labour power. The opposite is true if the trainees themselves bear the costs. In this case the costs are, from their perspective, an investment, and the higher earnings associated with training include a rate of return to this investment. This process is described by neoclassical economists as the accumulation of 'human capital', and empirical research has demonstrated a substantial return to its owners. The use of the term 'capital' in this context is profoundly fetishistic, but there is a real problem for a Marxian theory of

wage differentials. So long as the rate of return to worker-financed skills is positive, skilled workers will be paid more than the value of their labour power as defined by Marx.

The second difficulty stems from the observation that not all skills can be acquired by anyone willing to undergo a training period, for some are restricted to those possessing uncommon natural abilities. In such occupations competition may well be insufficiently strong to bring wages into equality with the value of labour power, so that there is a permanent monopoly element in the wage structure. Impediments to competition in the market for labour power are no more of an analytical problem for the labour theory of value than similar restrictions upon free competition between capitalists, the implications of which are discussed in section 8.4. It is sufficient at this point to recall that the theory of value, for Ricardo as for Marx, was intended to apply only to those commodities (including varieties of labour power) which were both produced *and freely reproducible* by human labour. The practical significance of this limitation depends upon the relative importance of genetically as opposed to socially acquired skills, on which we may permit Adam Smith the final word:

Such talents, though far from being common, are by no means so rare as is imagined. Many people possess them in great perfection, who disdain to make this [financially rewarded] use of them; and many more are capable of acquiring them, if any thing could be made honourably by them (Smith 1776:120).

What, thirdly, if non-financial inducements and disincentives vary sharply between different occupations? Other things being equal, will not pleasant, safe, rewarding work be undertaken at lower wages than dirty, dangerous, back-breaking toil? Doubts about the practical relevance of this point are often voiced, and theoretically, too, they are not compelling. It is implicit in Marx's argument that the pressure of the industrial reserve army is enough, in all normal circumstances, to compel workers to take jobs which they actively dislike in order to survive. When labourers 'shun work like the plague' (*Early Writings*:125), it is *all* work that is detested, without discrimination. Alienation entails that work becomes a means rather than an end, giving rise to the 'indifference of the labourer to the nature of his labour' and 'the elimination of all vocational prejudices' among workers (*Capital* III:196). This is evidently an exaggeration, but not – at least for the great majority of manual workers, and for most of those in routine non-manual occupations – an outrageous one.

In conclusion, it is evident that Marx dealt satisfactorily with only one of the two 'labour reduction' problems. When labour is heterogeneous, values can be calculated without ambiguity only so long as a system of weights is employed. Marx successfully specified these weights in terms of the quantities of labour needed to produce different types of labour power. He seems to have believed that these weights also provided an adequate explanation of wage differentials, thereby solving the second 'reduction problem' too. In this belief he was mistaken, as we have seen. But wage

rates are themselves commodity prices, and are supposed (on Marx's own argument) to be determined by the labour values of the different types of labour power, along with all other prices. This has proved to be impossible, and Marx's failure to establish a satisfactory theory of wage differentials must be regarded as a serious blow to his political economy as a whole.

#### 7.4 The labour process: work and conflict

Labour power is in two ways a most unusual commodity. Firstly, it is not produced for sale by profit-making capitalists. We saw in section 7.1 that this poses several problems for Marx's theory of wages. Secondly, it is unique in that its use value cannot be extracted by the purchaser at will, and is not determined exclusively by the laws of nature in conjunction with the preferences of the consumer. The use value of labour power is the labour performed by the worker: it is a human activity, and not the material property of an inanimate object. Workers have minds of their own, and interests which clash with those of the capitalists to whom they sell their labour power:

The first formal act of exchange between money and labour or capital and labour is only *potentially* the appropriation of someone else's living labour by materialised labour. The actual process of appropriation takes place only in the actual production process (TSV I:406–7).

The use value of labour power depends on the outcome of class conflict within the labour process.

In the early or *manufacturing* stage of capitalist industry, workers' opposition to the intensification of labour enjoyed a degree of success. Capitalist pressure to extend the division of labour and to expand the exploitation of women and children 'is wrecked on the habits and the resistance of the male labourers'. Its reliance on the 'handicraft skill' of the men meant that 'capital is constantly compelled to wrestle with the insubordination of the workmen' (*Capital* I:367).

The eventual outcome of this struggle, however, is a crushing defeat for the workers. Capitalists turn to the employment of machines, and *modern industry* (or 'machinofacture') begins. Mechanisation is undertaken with 'the object of reducing the workman, from his very childhood, into part of a detail-machine. In this way, not only are the expenses of his reproduction considerably lessened, but at the same time *his helpless dependence upon the factory as a whole, and therefore upon the capitalist, is rendered complete*. . . . In manufacture the workmen are parts of a living mechanism. In the factory we have a lifeless mechanism independent of the workman, who becomes its mere living appendage.' This 'technical subordination of the workman to the uniform motion of the instruments of labour . . . gives rise to a barrack discipline . . . dividing the workpeople into operatives and overlookers, the private soldiers and sergeants of an industrial army'.

The despotism of capital finds further expression in the factory code

in which 'the place of the slave-driver's lash is taken by the overlooker's book of penalties'. Factory work imposes a rigid separation of manual and mental labour, and thereby '*confiscates every atom of freedom, both in bodily and intellectual activity*' (*Capital* I:422-4; stress added). When piece-work is in use, this 'form of wages most in harmony with the capitalist mode of production' permits an increased intensification of labour by stimulating competition between individual operatives, while at the same time making direct supervision very largely superfluous (*ibid.*:553-6). In short, there is what may be termed a 'historical labour reduction process' in which workers' skills are continually debased, trivialised and rendered redundant.

Marx's description of the capitalist labour process was based on the Lancashire cotton industry, and drew heavily on the ideas of such contemporary prophets of the machine as Andrew Ure and Charles Babbage, not to mention that reluctant capitalist Friedrich Engels. Its close affinity with the later writings of Frederick Taylor, pioneer of 'scientific management', has often been noted. It seems clear, however, that Marx exaggerated the triumph of capitalist despotism. Even the humblest 'detail-worker' has retained a certain amount of discretion at work. No job is so totally machine-paced, nor can it be so tightly supervised, that the intensity of labour is dictated by managerial fiat. Even piece-work rarely proves to be a fully reliable instrument for the preservation of labour discipline. Conflict over the organisation and pace of work remains endemic, and capitalists are still 'compelled to wrestle with the insubordination of the workmen'. What is more, they do not always win.

As a result the organisation of work, and the structure of its rewards, have become vastly more complicated than Marx envisaged. 'In the place of the hierarchy of specialised workmen that characterises manufacture', Marx wrote, 'there steps, in the automatic factory, a tendency to equalise and reduce to one and the same level every kind of work that has to be done by the minders of the machines; in the place of the artificially produced differentiations of the detail workman, step the natural differences of age and sex' (*Capital* I:420). In fact the exact opposite has occurred. The hierarchy of jobs and wages is more pervasive and more finely graded than ever before. It is no less 'artificially produced', but in order that the capitalist might establish control over the labour process rather than as an unavoidable response (as in manufacture, perhaps) to the demands of technology. The 'natural differences' of age and (especially) race and sex have been mercilessly exploited in order to divide the workforce, the more effectively to rule it. In place of the single market for labour power that Marx seems to have anticipated, there exists instead a myriad of *segmented* labour markets.

What are the theoretical implications of all this? Firstly, as regards Marx's theory of wages in general, there is now less reason to be surprised at the ability of real wages to rise in the midst of sustained mass unemployment. Wages are manipulated as a managerial tool to reward the loyalty and co-operation of an otherwise insubordinate workforce, and are thus to a significant extent insulated from the influence of the supply and demand for

labour power. Secondly, Marx's analysis of wage differentials is even less satisfactory than it appeared to be from our discussion in the previous section. The hierarchy of wages in a factory, like the hierarchy of jobs, represents the capitalist's attempt to thwart workers' resistance in the labour process, and may bear only a very loose relationship to the costs of training involved in different types of work. Thirdly, it can no longer be supposed that the rate of exploitation is always identical for all workers. Where wages and hours of work do tend to be equalised, and the intensity of work does not differ substantially from workplace to workplace, then total, necessary and surplus labour tend to be the same for everyone. In segmented labour markets none of these tendencies can be relied upon to give equal rates of exploitation. The resulting divisions of interest (between white and black workers, say, or men and women) may have important political consequences: the concept of class is less significant than Marx's social theory suggests, and the politics of capitalist societies are not synonymous with class struggles.

Finally, there is a greatly enhanced scope for workers' bargaining power to influence the amount of surplus value which can be extracted from them, and thus to affect the rates of surplus value and of profit in the economy as a whole. Both the intensity of work and the real wage have been shown to depend upon the outcome of the battle for control over work. The length of the working day hinges on the economic and political strength of organised labour. Even the nature and pace of technical change is a variable in the struggle over the labour process, and not an exogenously given constant; it is a struggle which (despite Marx's belief to the contrary) is not always won by the capitalist. The political economy of class conflict, to summarise, is of very much greater significance than Marx believed it to be.

## 7.5 Productive and unproductive labour

We have seen that the Physiocrats drew a distinction between productive labour, which contributes to the economic surplus, and unproductive labour, which feeds upon it. Their idiosyncrasy lay in the assertion that only agricultural labour was productive. For Adam Smith and his successors manufacturing industry also helped to generate the surplus, and was therefore to be regarded as equally productive. Smith contrasted labour 'exchanged with capital' – that is, employed by a capitalist with a view to making a profit – with labour 'exchanged with revenue', by which he meant workers employed by the wealthy for the direct satisfaction of their personal consumption needs. The miners who worked for a coal-owner were productive labourers, for example, while his footmen and maidservants were unproductive. More of the former meant faster economic growth; more of the latter indicated profligacy and potential stagnation. 'A man grows rich by employing a multitude of manufacturers: he grows poor, by maintaining a multitude of menial servants' (*Wealth of Nations*, I:351; cited TSV I:155–6).

A distinction between productive and unproductive labour is also made by Marx for the purpose of accurately measuring exploitation (the magnitude of which determines profits). The issue is also an important one for two additional reasons. First, the century since Marx's death has seen the rapid growth of certain types of labour which, as we will see, on Marx's own criteria would be regarded as unproductive, notably in private finance and in commerce. Second, there has come to prominence the problem of appropriately treating non-waged labour which is necessary to the reproduction of the wage-labour system; women's domestic labour is the clearest example. For all these reasons the analysis of productive and unproductive labour is of present-day relevance in Marxist political economy.

Marx's own discussion was rather complex. At the most general level, he maintained, labour is productive if it creates surplus value and unproductive if it does not (*Capital* I:509; *Capital* II:134; *Capital* III:279–80; TSV I:396). The dichotomy relates specifically and exclusively to the capitalist mode of production (TSV I:152, 393–6). Value judgements are entirely irrelevant, since 'there is no question of moral or other standpoints in the case of either the one or the other kind of labour' (TSV I:171). Unproductive labour may be useful, even indispensable to the efficient operation of the capitalist economy (*Capital* II:132–6; *Capital* III:279–80; TSV I:293–4), while 'a use value of a commodity in which the labour of a productive worker is embodied may be of the most futile kind' (TSV I:158). It is, to repeat, the production of surplus value that is the hallmark of productive labour.

However, Marx also maintains that surplus value is generated only in particular sectors of the capitalist economy, called *production*. Other sectors, engaged in the *circulation* of commodities, do not themselves give rise to surplus value, but merely appropriate part of the surplus value which originates in production. Thus for Marx, it is important to note, not all profitable activities are also productive activities. Capital engaged in circulation can command the going rate of return but the surplus value which lies behind these profits arises only in the production sectors.

The detailed implications of Marx's analysis are summarised in Table 7.1, in which productive labour is isolated by a process of elimination. Consider first the activities of the unwaged. Independent artisans and peasants 'belong neither to the category of productive nor of unproductive labourers, although they are producers of commodities. But their production does not fall under the capitalist mode of production' (TSV I:407; original stress omitted). It might be thought that this applies *a fortiori* to domestic labour performed (mainly by women) within the family, for housewives are not employed by capitalists, and do not even produce commodities. In fact Marx does describe domestic labour and kindred activities as unproductive, without denying their *necessity* to the reproduction of labour power.

Of those employed for a wage, personal servants are clearly unproductive. State functionaries are also unproductive, although the magistrate (like the housewife) 'participates indirectly in production' by contributing

Table 7.1 Productive and unproductive labour

	<i>Form of labour</i>	<i>Nature of labour</i>	<i>Productive or unproductive</i>	<i>Authority</i>
	Unwaged	Peasants and artisans Domestic labour	Not applicable Unproductive	TSV I:407 TSV I:166, 405
	Exchanged with revenue	Personal service	Unproductive	TSV I:152-7
	Exchanged with state	Civil servants Employees of nationalised industries	Unproductive Productive	TSV I:174, 293-4 NAW:200
Waged	Circulation	Finance Commerce Some storage	Unproductive	Capital II:132-9 Capital III:279-80, 293 TSV I:272-81 Capital II:139-40
	Exchanged with (private) capital	Agriculture Mining Manufacturing Transport Some storage Non-material production	Productive	TSV I:412  Capital II:152-5 TSV I:412-13 Capital II:139-40 TSV I:157-9, 165-6, 401, 410-11

to the social environment in which capitalist production takes place (TSV I:293). Workers employed by state-owned manufacturing, mining and transport enterprises are productive.

Where the state itself is a capitalist producer . . . its product is a 'commodity', and therefore possesses the specific character of any other commodity (NAW:200).

However, as we have stated, not all those who exchange their labour with private capital are in fact productive. Workers engaged in the 'circulation' activities of trade and finance are unproductive, since

The general law is that *all costs of circulation which arise only from changes in the forms of commodities do not add to their value*. They are merely expenses incurred in the realization of the value or its conversion from one form into another (*Capital* II:152).

Again, it is not denied that bankers, accountants and shopkeepers are necessary to a capitalist economy, nor that the division of labour which creates their specialised roles is most useful in reducing the amount of time which must be devoted to such unproductive activities. Clerks and shop assistants actually perform surplus labour, but they do *not* produce surplus value (*ibid.*:135).

Productive labour, then, is wage-labour exchanged with capital in the sphere of production rather than circulation. Agriculture, extractive industry and manufacturing obviously count as productive. So too does transport, since 'the use-value of things is materialised only in their consumption, and their consumption may necessitate a change of a location of these things' (*Capital* II:153). Some of the labour employed in the storage of goods is also productive, for similar reasons. 'Included among these productive workers, of course, are all those who contribute in one way or another to the production of the commodity, from the actual operative to the manager or engineer (as distinct from the capitalist)' (TSV I:156–7). 'Non-material production' also qualifies: actors, clowns, teachers, waiters, cooks, writers and prostitutes are productive labourers, so long as they are employed by profit-seeking capitalists. In practice, Marx believed, such activities remained predominantly outside the capitalist mode of production. But this is not a matter of principle: Marx's distinction between productive and unproductive labour is *not* a distinction between 'goods' and 'services'. Marx was strongly critical of Adam Smith for requiring productive labour to be embodied in a 'vendible commodity' with a definite material existence (see e.g. TSV I:162–3).

Two objections may be raised against Marx's analysis. First, the notion of labour which is 'useful' but incapable of producing use value is a rather elusive one. Second, and more important, the boundaries between 'production' and 'circulation' cannot be drawn precisely. Against all appearances a case can be made on Marx's criterion that advertising copy-writers, for example, perform productive labour. Without their work it is unlikely that many of the 'most futile' commodities for which there at present exists



a market would possess any use value at all. Hence the copy-writer creates use value and, by analogy with transport workers, is a productive labourer. This point has other applications. For instance, bank workers are in general unproductive. Those employed in a bank's research department, however, might be considered to be producing information, a 'non-material commodity' with a distinct use value, and therefore to perform productive labour.

These problems can be overcome by abandoning the distinction between 'production' and 'circulation', and regarding as productive *all* socially necessary wage-labour which is 'exchanged with capital' in the sense explained at the beginning of this section. This revision is indeed more compatible with Marx's general approach to political economy. As we saw in Part I, Marx's perspective is one in which economic phenomena are determined by the historically specific structure of relations which define the mode of production in which they occur. To say that surplus value arises from the capital-labour relation is perfectly consistent with this and does not need to be supplemented by a distinction between 'circulation' and 'production' activities.\* Labour exchanged with capital, in all spheres, can thus be regarded as productive and, therefore, as generating surplus value.

### Reading guide

Marx analyses the determinants of the rate of exploitation in *Capital* I:Ch. XVII; his theory of wages is in *ibid.*: Chs VI, XI, XXII and XXV; and his discussion of the working day is in *ibid.*: Ch. X. See also the simpler accounts in *Wage Labour and Capital* (SW I:142-74) and *Wages, Price and Profit* (SW II:31-76). His treatment of wages is defended by Rosdolsky (1977:282-313), Rowthorn (1980) and Sowell (1960), while a more critical view is taken by Meek (1967:113-28). Hyman (1972) discusses the analysis of trade unions in Marx and later Marxist writers. For data on long-run trends in wages see Phelps Brown and Hopkins (1981), while Bienefeld (1972) is an indispensable source on the secular decline in the working day. Trends in the distribution of income between labour and capital are summarised, for a number of countries, by King and Regan (1976: Ch. 2).

What little Marx has to say on the labour reduction problem can be found in *Capital* I: Ch. I, section 2. In the secondary literature, varying viewpoints can be found in Blaug (1982), Bowles and Gintis (1977, 1978), Meek (1973:167-73), Morishima (1978), Morris and Lewin (1973-74) and Roncaglia (1974).

\* Nor would this revision of Marx's position conflict with his objection to the Mercantilist theory of profit (above, section 5.3.1). Mercantilist views are logically indefensible when applied to a closed competitive economy, because a competitive equilibrium involves the 'law of one price' applicable to each commodity. In other words, there can be no possibility of profitable arbitrage in such circumstances and thus no possibility of Mercantilist profits. In monopolistic markets, of course, the position is quite different.

Marx's analysis of the labour process is given at length in *Capital* I: Pts IV–VI; these are easily the most readable of any of his economic works. The 'real' and 'formal' subordination of labour are discussed in a recently translated text written for, and then discarded from, volume I of *Capital* (Penguin edition *only*:948–1084). A celebrated defence of Marx on this question is given by Braverman (1974), whose book is critically reviewed by Coombs (1978), Cutler (1978), Elger (1979) and Jacoby (1976).

Lazonick (1979) suggests that things were more complicated than Marx allowed even in the cotton industry in the nineteenth century. Edwards (1979) and Gordon, Edwards and Reich (1982) deal with the emergence and operation of segmented labour markets, while some of the theoretical consequences are explored in an important article by Gintis and Bowles (1981); see also Roemer (1978).

Marx's discussion of productive and unproductive labour is found in *TSV* I (where pp. 152–76 and 269–83 of the very long Ch. IV should be supplemented with pp. 393–413 of Addendum 12), and in *Capital* II: Ch. VI. The best exposition of Marx's ideas is by Gough (1972), which is however rather too uncritical of Marx. Hunt (1979) proposes radical surgery. Baran and Sweezy (1968) adapt Marx's analysis in a famous and controversial attempt to calculate the economic surplus in the US, while a similar exercise, less clearly based on the distinction between productive and unproductive labour but technically more sophisticated, is by Wolff (1979). O'Connor (1973) and Gough (1979) discuss the role of state employment. Similar issues are raised, albeit it in a distorted and mystifying fashion, in the well-known work of Bacon and Eltis (1978). The literature on the political economy of housework is enormous: Himmelweit and Mohun (1977) and West (1980) might be consulted as an introduction. Bradby (1982) rejects the labour theory of value in its entirety as anti-feminist.

## Chapter 8

# The transformation problem revisited

### 8.1 Introduction

Marx's analysis of the transformation of values into prices, and surplus value into profits, was central to his political economy. He argued that nothing more was involved in the transformation than a redistribution of surplus value between capitalists who operated with differing organic compositions of capital. The total mass of profit was determined by the aggregate amount of surplus labour performed, and the rate of profit was given by a ratio of quantities of embodied labour. The analysis of value then has logical (as well as historical) priority over the analysis of prices, since Marx claimed to have shown, firstly that a coherent theory of prices and profits *can* be constructed on the basis of the labour theory of value, and secondly that it can *only* be so constructed.

This chapter deals with the first part of this claim. In section 8.2 we demonstrate the incompleteness of Marx's own solution to the transformation problem (which was summarised in Ch. 6), and suggest how it may be corrected. Section 8.3 further explores this question in the context of the recent work of Sraffa. Finally, in section 8.4, we consider the implications if profit rates can no longer be assumed to be equal, that is, if free competition gives way to monopoly. The second part of Marx's claim, concerning the theoretical necessity for transforming values into prices, is not discussed here; it forms the subject of Chapter 10.

### 8.2 The limitations of Marx's solution

The numerical example of transformation which was investigated in Chapter 6 is repeated in Table 8.1. At first sight Marx's solution appears to provide a complete and convincing defence of his arguments, for the sum of prices equals the sum of values (240), and the sum of profits also equals the total surplus value (60). Moreover, the rate of profit in Marx's price system is given by the ratio of total surplus value to total capital ( $r =$

Table 8.1 Marx's and Bortkiewicz's price systems

<i>The value system</i>						
	(1)	(2)	(3)	(4)=(1)+(2)+(3)	(5)=(3)/(2) Rate of exploitation (%)	(6)=(1)/(2) Organic composition of capital
	Constant capital	Variable capital	Surplus value	Value		
Department I	80	20	20	120	100	4.0
II	10	25	25	60	100	0.4
III	30	15	15	60	100	2.0
Total	120	60	60	240		
<i>Marx's price system</i>						
	(1)	(2)	(3)=(1)+(2)	(4) Average rate of profit (%)	(5)=(4).(3) Profits	(6)=(3)+(5) Price of production
	Constant capital	Variable capital	Cost price			
Department I	80	20	100	33 1/3	33.3	133.3
II	10	25	35	33 1/3	11.7	46.7
III	30	15	45	33 1/3	15	60
Total	120	60	180		60	240
<i>Bortkiewicz's price system</i>						
	(1)	(2)	(3)=(1)+(2)	(4) Average rate of profit (%)	(5)=(4).(3) Profits	(6)=(3)+(5) Price of production
	Constant capital	Variable capital	Cost price			
Department I	96	12	108	33 1/3	36	144
II	12	15	27	33 1/3	9	36
III	36	9	45	33 1/3	15	60
Total	144	36	180		60	240
					(7)=(3)/[(1)+(2)] Rate of profit (%)	
Department I					20	
II					71.4	
III					33.3	
Total						
						(7) Price - Value ratio
Department I						1.11
II						0.78
III						1.00
Total						
						(7) Price - Value ratio
Department I						1.2
II						0.6
III						1.0
Total						

33 1/3%). This is necessarily true if both Marx's invariance conditions hold.\*

Alas, the true position is not so simple. In Marx's solution constant and variable capital are not expressed in terms of prices at all. They have not been transformed, but were left intact, as labour values (80, 10 and 30 in the case of constant capital; 20, 25 and 15 for variable capital). But departments I and II produce means of production and means of subsistence respectively. The steel produced by department I, for example, constitutes the constant capital employed in departments I, II and III. If steel sells at its price of production (1.11 per ton) rather than its labour value (unity), then the figures for the constant capital used in all three departments must be amended. The same is true for department II, whose output of corn represents the material basis of variable capital across the three departments. Marx failed to complete the transformation: column (3) of his price system, which purports to show cost *prices*, remains in value terms, and this renders incorrect the figures in columns (5)–(7).

Closer scrutiny of Table 8.1 will reveal the extent of the problem. The 120 tons of steel, viewed as the output of department I, sell at a price of 133.3. Seen as inputs of constant capital, reading down column (1) of Marx's price system, they are 'priced' at 120. Department II's output of corn sells at 46.7, but it is reckoned, when seen as variable capital, at 60. Marx acknowledged the need to transform input as well as output values into prices of production (see *Capital* III:161), but he was unable to extend his analysis accordingly.

A complete solution, under conditions of simple reproduction, was described by the German economist Ladislaus von Bortkiewicz early in the

\* The labour value of total capital is  $\Sigma(c + v)$ . This equals total value,  $\Sigma(c + v + s)$ , minus total surplus value,  $\Sigma s$ . Similarly, the price of total capital  $\Sigma(c_p + v_p)$  equals the sum of prices of production,  $\Sigma(c_p + v_p + \pi)$ , less total profits,  $\Sigma \pi$ . (The suffixes denote price magnitudes, and  $\pi$  represents profits.) Now Marx's first invariance condition states that

$$\Sigma(c + v + s) = \Sigma(c_p + v_p + \pi)$$

and the second condition requires that

$$\Sigma s = \Sigma \pi$$

It follows that total capital is the same in both value and price terms, since

$$\Sigma(c + v) = \Sigma(c_p + v_p)$$

Marx's 'value rate of profit' is

$$r = \frac{\Sigma s}{\Sigma(c + v)}$$

and his 'price rate of profit' is

$$r_p = \frac{\Sigma \pi}{\Sigma(c_p + v_p)}$$

It is easy to see that  $r = r_p$ .

Table 8.2 The framework of Bortkiewicz's solution

*Conditions for simple reproduction (values)*

$$c_1 + v_1 + s_1 = c_1 + c_2 + c_3 = a_1 \quad [8.1]$$

$$c_2 + v_2 + s_2 = v_1 + v_2 + v_3 = a_2 \quad [8.2]$$

$$c_3 + v_3 + s_3 = s_1 + s_2 + s_3 = a_3 \quad [8.3]$$

*Conditions for simple reproduction (prices of production)*

$$(c_1x + v_1y)(1 + r) = (c_1 + c_2 + c_3)x = a_1x \quad [8.4]$$

$$(c_2x + v_2y)(1 + r) = (v_1 + v_2 + v_3)y = a_2y \quad [8.5]$$

$$(c_3x + v_3y)(1 + r) = (s_1 + s_2 + s_3)z = a_3z \quad [8.6]$$

present century. It involves some elementary algebra, as shown in Table 8.2. Denote the value of the output of each department as  $a_1$ ,  $a_2$  and  $a_3$  (120, 60, 60 in our example). Write the values of constant and variable capital in the three departments as  $c_1$ ,  $c_2$  and  $c_3$  (80, 10 30) and  $v_1$ ,  $v_2$  and  $v_3$  (20, 25, 15). Surplus values are written as  $s_1$ ,  $s_2$  and  $s_3$  (20, 25, 15). Now consider department I: the value of its output is  $a_1$  which, being made up of constant and variable capital and surplus value, equals  $c_1 + v_1 + s_1$ . This is to view steel as an output. Seen as an input, it is the constant capital used in the steel industry itself and in the other two departments. It must follow, on the assumption of simple reproduction (section 6.2.3), that  $a_1$  is also equal to  $c_1 + c_2 + c_3$ . This explains equation [8.1]. Equation [8.2] is similarly derived, but this time for variable rather than constant capital. As for equation [8.3], remember that in simple reproduction all surplus value is spent on luxury consumption, so that the value of the output of gold ( $a_3 = c_3 + v_3 + s_3$ ) is equal to the sum of surplus value in all three departments ( $s_1 + s_2 + s_3$ ).

The problem is to transform values into prices, and surplus value into profits, in such a way as to satisfy Marx's requirements and involving inputs as well as outputs. We have already worked out price-value ratios for Marx's incomplete solution (see column (7) of the relevant part of Table 8.1). But, as we have argued and Marx himself knew, they were wrong. A complete solution requires that they be calculated correctly, by taking account of inputs as well as outputs. This can be done in the following manner. Write these ratios, for departments I, II and III respectively, as  $x$ ,  $y$  and  $z$ . Equations [8.4]–[8.6] can then be specified. To illustrate, consider equation [8.4] which deals with department I. The term in the first bracket on the left-hand side of equation [8.4] is the cost price of steel, expressed – in prices of production – as the sum of constant capital ( $c_1x$ ) and variable capital ( $v_1y$ ). The second bracket on the left-hand side adds, to that cost price, profits at the average rate ( $r$ ) on total capital employed. (Remember that, on our assumption that there is no fixed capital, capital employed is exactly equal to the cost price). The right-hand side of equation [8.4] views steel as an input, and transforms its value into prices of production in each

of the three departments in which it is used. Equations [8.5] and [8.6] are derived in similar fashion.

We now have three equations ([8.4]–[8.6]) and four unknowns ( $x$ ,  $y$ ,  $z$  and the rate of profit,  $r$ ). Bortkiewicz put  $z = 1$ , and solved for the remaining unknowns as demonstrated in Appendix I. Setting  $z = 1$  specifies the units in which prices of production are measured as units of labour value in department III. In other words, if we assume gold to be the output of department III, then putting  $z = 1$  means that gold is chosen as the monetary unit or *numéraire*. A particular quantity of gold, embodying one unit of socially necessary labour and therefore equal to one unit of labour value, thus has a price equal to unity. The ratios  $x$  and  $y$  express the prices of the output of department I (steel) and department II (corn) in terms of this *numéraire*.

In our example it can be shown that  $x = 1.2$  and  $y = 0.6$  (with Marx's price system giving the wrong answers), and  $r = 33 \frac{1}{3}$  per cent (in agreement with Marx): The complete and correct transformation of the original value system is shown in Table 8.1 as 'Bortkiewicz's price system'. It appears from this that Marx was right in principle, and wrong only in detail. As can be inferred from that fact that the rate of profit equals the ratio of total surplus value to the labour value of total (constant plus variable) capital (see footnote to p. 136), both his invariance conditions are met: the sum of prices equals the sum of labour values (240), and the sum of profits equals the sum of surplus value (60).

It will be remembered, however, that this example was chosen with one unusual feature in mind. The organic composition in the third department, producing the luxury commodity gold, is equal to the average organic composition in the system as a whole. This will not be true in any actual capitalist economy, except by chance. Its significance may be seen by considering the consequences if the organic composition in department III were, for example, relatively low. It follows that the price-value ratio in department III would also be low (see above, p. 101). But if  $z = 1$  and  $x$  and  $y$  are greater than  $z$  (as they have to be since they are price-value ratios of departments with higher organic compositions), then the sum of prices will exceed the sum of values. This is so because the sum of prices is a weighted average of the labour values.

Similarly, if the organic composition of capital in department III is above average, the sum of prices will fall below the sum of values. Putting  $z = 1$  is in itself sufficient to guarantee that the sum of profits equals the sum of surplus value, but this means that – in either of the two cases under consideration – the rate of profit in the price system will *not* be equal to the ratio of aggregate surplus value and aggregate constant and variable capital. Nor will the difficulties be eased by changing the unit in which prices are measured, putting  $x$  or  $y = 1$ , for this will render  $z \neq 1$ , so that the sum of profits will diverge from the sum of surplus value.

To summarise, unless the organic composition of capital in department III is equal to the social average, there will in general be an inequality

between aggregate values and the sum of prices of production, or an inequality between the sum of surplus values and total profits, or both. Furthermore, there will be a divergence between the rate of profit corresponding to prices of production and Marx's formula for the rate of profit, which is calculated from the value system. Consequently, even under the assumption of simple reproduction, although prices of production can be derived from values and the defects in Marx's own transformation procedure overcome, problems appear to remain because all his invariance conditions are not satisfied. If the conditions of simple reproduction do not hold then the situation departs even further from that described by Marx. In this case, even if department III has a social average organic composition, setting  $z = 1$  will not generally suffice to bring aggregate surplus value into equality with total profits, although it is still true that prices of production can be derived from values.

How important is all this for Marx's political economy? It can be argued that nothing of substance is threatened, since Marx's 'invariance conditions' are irrelevant. As the units in which prices are measured are arbitrary, no significance can possibly attach to either the equality or inequality of any value aggregate and price magnitude. Furthermore, since the equilibrium rate of profit must equal the ratio of aggregate profits to total capital measured in prices of production, there is no reason to expect that an exogenously determined labour value specification of this rate will be correct. The only substantial issue is whether prices and the rate of profit can be derived from Marx's value magnitudes. The Bortkiewicz procedure shows that this can be done for an elementary case, and Seton (1957) has shown that it can also be done in more complicated cases involving  $n$  departments and the absence of simple reproduction conditions.

There is much to be said for this interpretation of the transformation problem. The price *numéraire* is arbitrary, so that the equality or inequality between aggregates of values and prices has no economic significance. However, the matter of the rate of profit is a more delicate issue in Marxian political economy. We have already seen in Parts I and II that Marx spent a great deal of effort in forming concepts and developing analysis which would cut through the mystifying appearances associated with capitalist commodity production. In particular, he was concerned to show that profits and the rate of profit represented the exploitation of labour. The Bortkiewicz procedure outlined above does not explicitly establish this, and is thereby deficient from a Marxian standpoint.

However, it is in fact easy to prove that the Bortkiewicz procedure will generate a positive rate of profit if and only if there is a positive rate of exploitation. It follows that exploitation is a necessary and sufficient condition for the existence of positive profits. This result has come to be known as the *Fundamental Marxian Theorem*. In addition it can be shown that the rate of profit varies directly with the rate of exploitation.

Is there anything more to be said? It seems reasonable to answer in the negative. Having shown that equilibrium prices can be derived from



labour values and that exploitation is at the root of profit is to have shown what Marx sought to show. Nevertheless, while one can accept that this is indeed the case, this acceptance does not preclude further analysis of the relationships involved. In particular, it does not rule out the search for a general and intuitively appealing characterisation of the relationship between the rate of profit and exploitation. In the next section we assess the analytical framework of Piero Sraffa's *Production of Commodities by Means of Commodities* from this perspective.

### 8.3 Sraffa and the rate of profit

In carrying out his transformation, Marx pointed out that an industry with an organic composition greater than the social average would have a price of production in excess of its value. Conversely, a department with an organic composition less than the social average would have a value greater than its price of production. It followed that any 'borderline industry' with an organic composition equal to the social average would have a price equal to its value, and the ratio of its own surplus value to the labour value of its capital would equal the prevailing rate of profit. Such a borderline industry would, therefore, form a microcosm of the entire economy, in which the distorting appearances of capitalist price relations would be absent and the relationship of exploitation to the rate of profit could clearly be observed.

As we have seen in the previous section, however, Marx's transformation procedure was faulty. Its errors undermine his proposition regarding the borderline industry. The root of the difficulty is to be found in his definition of that industry. This may be seen most clearly by considering an economic system with a large number of industries rather than the three departments of section 8.2. Possibly one of these industries might be found to have an organic composition which actually was equal to the average for the entire system. But it would use, as inputs, means of production supplied by other industries with above- or below-average organic compositions, themselves supplied by yet other industries, and so *ad infinitum*. Except by the purest chance, this would be inconsistent with equality between value and price at any rate of profit, and shifts in the distribution of income would lead to changes in prices of production.

Nevertheless, Sraffa's analysis shows that an alternatively defined borderline industry with the properties that Marx ascribed to it can be defined, according to criteria not entirely dissimilar from those suggested by Marx. The industry must, firstly, use the required or 'balancing' ratio of living labour to means of production. Secondly, this ratio must *recur* 'in all the successive layers of the industry's means of production without limit' (Sraffa 1960:16). It is extremely unlikely that any individual industry will exactly meet the required conditions, but Sraffa demonstrates that such an industry can be constructed from the parts of existing sectors. To see how

this can be done, it will be necessary to explore further the nature of the 'balancing ratio'.

It will be remembered that the *gross product* of an economic system is the sum of the *means of production* which it uses and of the *net product*. It follows from the definition of the borderline industry that, if its output is taken to be the *numéraire*, the price of both its gross product and its means of production will be invariant with respect to changes in the rate of profit. Inevitably, therefore, the price of its net product will also be unaffected by shifts in distribution and in relative prices, and so too will the ratio of net output to the means of production (which is the required balancing ratio). This ratio is actually the *maximum rate of profit*, which could be paid if wages were zero: if the workers could 'live on air' the entire net product would accrue to the capitalists.\* Denoting this notional maximum rate of profit as  $R$ , we can see that

$$R = \frac{\text{Net product}}{\text{Means of production}}$$

In the borderline industry  $R$  is independent of the actual rate of profit, and hence also independent of the changes in relative prices which result from alterations in the actual rate of profit. This last is really the crucial property of the borderline industry.

To illustrate, consider the simple Ricardian corn model (above, section 5.4.2), where the only commodity used as an input is corn (as seed), and corn is the only output. Gross output, net output and the means of production of such an industry would all consist entirely of corn, and the maximum rate of profit is a ratio of two quantities of corn. In Figure 5.1, for example, where the gross product is 1,000 tons of corn and the net product 800,  $R = (800) / (200) = 400$  per cent. No change in the price of corn relatively to other commodities can possibly affect this ratio.

In reality agriculture, like all other industries, uses a variety of means of production supplied by a number of other sectors, and  $R$  is a function of the relative prices of output and heterogeneous inputs. This can be seen very clearly in System I in Table 8.3, which uses an example of Sraffa's (1960:19). It depicts an economic system in which, in addition to labour, iron, coal and wheat are used to produce iron, coal and wheat. For convenience Sraffa sets the total quantity of living labour equal to unity. Adding the columns, we obtain the total amounts of means of production employed in the three industries: 180 tons of iron, 285 tons of coal and 410 quarters of wheat. Subtracting these from the gross outputs of the three industries, net output is found to be 165 tons of coal plus 70 quarters of wheat

\* In other words, the net product would coincide with the surplus product, and the whole of the surplus product would be paid to the capitalists. In practice, of course, wages are not zero, the net product exceeds the surplus product, and it is also possible that workers are able to appropriate some of the surplus product (on the latter question see section 7.2 above).

Table 8.3 The construction of the standard commodity

<i>System I</i>				
90 tons iron	+ 120 tons coal	+ 60 qrs wheat	+ 3/16 labour	→ 180 tons iron
50 tons iron	+ 125 tons coal	+ 150 qrs wheat	+ 5/16 labour	→ 450 tons coal
40 tons iron	+ 40 tons coal	+ 200 qrs wheat	+ 8/16 labour	→ 480 qrs wheat
180	285	410	1	
<i>System I<sup>A</sup></i>				
120 tons iron	+ 160 tons coal	+ 80 qrs wheat	+ 4/16 labour	→ 240 tons iron
40 tons iron	+ 100 tons coal	+ 120 qrs wheat	+ 4/16 labour	→ 360 tons coal
40 tons iron	+ 40 tons coal	+ 200 qrs wheat	+ 8/16 labour	→ 480 qrs wheat
200	300	400	1	

(the net output of iron is zero, as the gross product of 180 tons is entirely absorbed as means of production). If wages are zero then this is all paid to the capitalists, and the maximum rate of profit is

$$R = \frac{165 \times p_{\text{coal}} + 70 \times p_{\text{wheat}}}{180 \times p_{\text{iron}} + 285 \times p_{\text{coal}} + 410 \times p_{\text{wheat}}}$$

The three prices do not cancel out;  $R$  will alter every time there is a change in the relative prices of iron, coal and wheat. The output of this composite industry cannot, therefore, function as the borderline industry.

A borderline industry can, however, be constructed by taking this economic system to pieces, adjusting the relative sizes of the parts, and then reassembling it. System I<sup>A</sup> in Table 8.3 has been derived from System I by enlarging the iron industry by a factor of 4/3; scaling down the coal industry to four-fifths of its former proportions; and leaving the wheat industry at its previous size. The net output of the new system is 40 tons of iron plus 60 tons of coal plus 80 quarters of wheat, and the maximum rate of profit is

$$R = \frac{40 \times p_{\text{iron}} + 60 \times p_{\text{coal}} + 80 \times p_{\text{wheat}}}{200 \times p_{\text{iron}} + 300 \times p_{\text{coal}} + 400 \times p_{\text{wheat}}}$$

Here the three prices do cancel out, and  $R = 0.2$  whatever the relative prices may be. The system has in fact been chosen in such a way that 'the various commodities are represented among its aggregate means of production *in the same proportions* as they are among its products' (Sraffa 1960:19). They thus appear in this same proportion in the net outputs, a ratio, that is, of 1 : 1 1/2 : 2.

Composite industries which possess this property are known as *standard systems*, and their net output as the *standard commodity*. It is the standard commodity which can be used as the industry of average organic composition required by Marx. It can be shown that for the standard commodity the 'price' and 'value' rates of profit are equal:

$$r = \frac{\text{Total profits}}{\text{Aggregate means of production, in prices of production}}$$

is equal to

$$r = \frac{\text{Total surplus value}}{\text{Total constant capital plus variable capital, in values}}$$

Moreover, it can be demonstrated that  $r = e/k + 1$ , where  $e$  is the rate of exploitation in the production of the standard commodity and  $k$  the organic composition of capital of the standard system.\*

The proof of this proposition is an elaborate one, and only a very loose descriptive substitute for a formal demonstration is attempted here. We first show that the actual rate of profit (in price terms) is a function of the maximum rate of profit ( $R$ ) and the share of wages in the net product. The second step in the argument reveals that the actual rate of profit is also equal to the value rate of profit.

First we define  $w$  as the share of wages in the net product (rather than the level of wages per unit of labour). The profit share in net output is therefore  $(1 - w)$ , and

$$\text{Total profits} = (1 - w) \times \text{Net product}$$

The rate of profit is the ratio of total profits to the means of production employed (calculated in prices):

$$r = \frac{\text{Total profits}}{\text{Means of production}} = \frac{\text{Net product}}{\text{Means of production}} \times (1 - w) = R(1 - w)$$

In System I<sup>A</sup> of Table 8.3, for example,  $R = 0.2$ . If the net product is divided equally between capitalists and workers, so that  $w = 1/2$ , then:

$$\text{Total profits} = (0.5) (40 \times p_{\text{iron}} + 60 \times p_{\text{coal}} + 80 \times p_{\text{wheat}})$$

and

$$r = \frac{(0.5) (40 \times p_{\text{iron}} + 60 \times p_{\text{coal}} + 80 \times p_{\text{wheat}})}{(200 \times p_{\text{iron}} + 300 \times p_{\text{coal}} + 400 \times p_{\text{wheat}})} = 0.1$$

confirming that  $r = R(1 - w)$ .

Secondly, this expression for the rate of profit can be put in terms of labour values. As  $R$  is the ratio of net product to means of production, it may be written as  $\Sigma(v + s)/\Sigma c$ . The numerator in this fraction is simply

\* Only basic commodities enter into the standard commodity, where basics are defined as commodities which are used, directly or indirectly, in the production of all commodities. *Non-basics* are equivalent to the 'luxury' commodities of department III in the previous section, and are excluded from the standard system. This confirms Ricardo's and Bortkiewicz's conclusions (below, p. 149). Marx was confused on this point, sometimes correctly excluding department III from the determination of the rate of profit (*TSV* I:216; *TSV* II:25-6), sometimes wrongly taking the opposite position (*Capital* I<sup>v</sup>.105-6).

the value of the gross product,  $\Sigma(c + v + s)$ , minus the value of the means of production employed,  $\Sigma c$ , which forms the denominator. Since the value of the net product has been established as  $\Sigma(v + s)$ , the share of wages in the net product is evidently  $\Sigma v / \Sigma(v + s)$ . It follows that

$$\begin{aligned} r &= R(1 - w) = \frac{\Sigma(v + s)}{\Sigma c} \left[ 1 - \frac{\Sigma v}{\Sigma(v + s)} \right] = \frac{\Sigma(v + s)}{\Sigma c} \left[ \frac{\Sigma(v + s) - \Sigma v}{\Sigma(v + s)} \right] \\ &= \frac{\Sigma s}{\Sigma c} \end{aligned}$$

which is equal to Marx's (value) formula for the rate of profit, with variable capital excluded from the denominator. Alternatively,

$$r = \frac{\Sigma s}{\Sigma c} = \frac{\Sigma s / \Sigma v}{\Sigma c / \Sigma v} = \frac{e}{k}$$

where (as before)  $e$  is the rate of exploitation and  $k$  the organic composition.\*

Sraffa's standard commodity can, therefore, be used as Marx's industry of average composition. Doing this indicates not only that exploitation lies at the root of profit, but also provides a general and intuitively appealing characterisation of the relationship between the rate of profit and exploitation. Sraffa's standard commodity, then, is a construct which can cut through the distorting appearances inherent in capitalist price relations.

## 8.4 Monopoly profit and rent

Marx's theory of value relied, like Ricardo's, on the assumption of free competition. Capital must be free to enter or leave an industry at will, in search of higher rates of profit. If capital mobility is impeded, prices of production will not act as the limits towards which market prices tend, and there is no longer any force compelling the equalisation of rates of profit throughout the economy (*Capital* III:199). In this context 'monopoly' may be defined as any market structure in which entry is impeded sufficiently to permit differences in equilibrium profit rates; it includes most forms of oligopoly. Under monopolistic conditions the discussion of transformation in the previous sections of this chapter becomes redundant, for that dis-

\* Note that Sraffa assumes that wages are paid at the end of the production period, and hence does not treat wage-goods as means of production. This is why  $v$  is absent from the denominator of the previous equation, and why  $r = e/k$  rather than  $e/(k+1)$  in the present one. Marx does (implicitly) regard the commodities consumed by workers as part of the means of production, which is why his formulations differ from those of Sraffa. Nothing of any great substance is implied by these differences. The analysis could easily be reworked assuming, like Marx, that wages are paid in advance so that wage-goods do form part of capital. In this case the maximum rate of profit ( $R$ ) would equal  $\Sigma(s + v)/\Sigma(c + v)$ , and  $r$  would equal  $\Sigma s/\Sigma(c + v) = e/(k+1)$ .

cussion was concerned with the implications of the equalisation of profit rates.

Marx was probably the first economist to provide a convincing analysis of the pressures leading away from free competition:

The battle of competition is fought by cheapening of commodities. The cheapness of commodities depends, *ceteris paribus*, on the productiveness of labour, and this again on the scale of production. Therefore, the larger capitals beat the smaller . . . with capitalist production an altogether new force comes into play – the credit system, which in its first stages furtively creeps in as the humble assistant of accumulation, drawing into the hands of individual or associated capitalists, by invisible threads, the money resources which lie scattered, over the surface of society, in larger or smaller amounts; but it soon becomes a new and terrible weapon in the battle of competition and is finally transformed into an enormous social mechanism for the centralisation of capitals.

Commensurately with the development of capitalist production and accumulation there develop the two most powerful levers of centralisation – competition and credit (*Capital* I:626).\*

This at least of Marx's economic predictions has been verified by history. The crux of the argument is that competition under conditions of decreasing unit costs invariably leads to its own demise, which is accelerated by the growth of the modern credit system, enabling capitalists to expand their activities more rapidly than would be the case if they had to rely upon their own financial resources.

Where does this leave the labour theory of value, which requires free competition? Marx regarded competition as a surface phenomenon which distorts and mystifies the underlying reality, and therefore had little to say about the implications of monopoly. What he did say was an extension of this basic position.

if equalisation of surplus-value into average profit meets with obstacles in the various spheres of production in the form of artificial or natural monopolies, and particularly monopoly in landed property, so that a monopoly price becomes possible, which rises above the price of production and above the value of the commodities affected by such a monopoly, then the limits imposed by the value of the commodities would not thereby be removed. The monopoly price of certain commodities would merely transfer a portion of the profit of the other commodity-producers to the commodities having the monopoly price. A local disturbance in the distribution of the surplus-value among the various spheres of production would indirectly take place, but it would leave the limit of this surplus-value itself unaltered. Should the commodity having the monopoly price enter into the necessary consumption of the labourer, it would increase the wage and thereby reduce the surplus-value, assuming the labourer receives the value of his labour-power as before. It could depress wages below the value of labour-power, but only to the extent that the former exceed the limit of their physical minimum. In this case the monopoly price would be paid by a deduction from real wages (i.e., the quantity of use-values received by the labourer

\* By *centralisation* Marx means what is today termed industrial concentration; by *concentration* he refers to increasing enterprise size.

for the same quantity of labour) and from the profit of the other capitalists. The limits within which the monopoly price would affect the normal regulation of the prices of commodities would be firmly fixed and accurately calculable (*Capital* III:861).

Under monopolistic conditions, Marx argued, the total amounts of value and surplus value corresponding to a given level of employment remain exactly the same as in free competition. The only change is a redistribution of surplus value from those with less monopoly power to those with more. Monopolists sell their commodities at prices greater than their values (or, allowing for transformation, at prices in excess of the relevant prices of production), and capitalists in competitive industries are forced to sell below their values (or prices of production). This process itself 'always ends in the ruin of many small capitalists' (*Capital* I:626), and thereby speeds up the centralisation of capital.

For Marx the great bulk of the gains made by monopolists is thus at the expense of their weaker fellow capitalists. Part of the incidence might fall upon the workers, however, if the real wage could be reduced due to the monopolisation of industries producing wage-goods. Apart from this, the average degree of monopoly power in a capitalist economy is not a determinant of the distribution of income between wages and profits. What of the degree of monopsony, or, inversely, of the degree of competition between capitalists in the market for labour power? We have already seen (in section 7.2) that Marx was profoundly sceptical of the ability of trade unions – exercising a measure of 'countervailing power' against monopsonistic employers – significantly to improve the economic plight of the proletariat. In general Marx's discussion is conducted entirely in terms of product market (rather than labour market) competition.

Even if we disregard the question of monopsony, Marx's analysis is far from satisfactory. The unique status afforded to wage-goods industries must be questioned. We can agree with Marx that a decrease in competition in the brewing industry, for example, will reduce real wages, while increasing monopoly power in champagne production merely transfers surplus value from one group of capitalists to another. If departments II and III pose few problems, however, the position of department I is more contentious. An increase in monopoly power in industries supplying means of production to the brewers *may* simply benefit the former's capitalists at the cost of the latter's, but there seems no good reason to deny that some of the increased price of sugar or aluminium kegs might be passed on to working-class beer-drinkers.

The crucial distinction, then, may well be not between departments I and III, on the one hand, and department II on the other, but between basics and non-basics. And the importance of basic commodities is large enough to suggest the possibility that workers may be exploited in consumption as well as in production. More precisely, it may be the case that a substantial proportion of aggregate profits results from the sale of commodities at prices in excess of their values (or competitive prices of production).

Profits would then arise in exchange as well as in production, and a rather drastic reformulation of the theory of exploitation would be called for. Against the objection that this involves a return to the Mercantilist position rejected by all scientific economists since the Physiocrats (above, section 5.3), it should be noted that this rejection was itself based on the apparent triumph of free competition, and cannot be extrapolated without qualification to monopoly capitalism.

Whether or not this quasi-Mercantilist conclusion is accepted, some account of the determination of monopoly price is required for the analysis of income distribution, and thus for the theory of capitalist development in general. In one sense this involves a *second* transformation, this time with competitive prices of production as the starting-point and monopoly prices as the end result. But this does not take us very far. Marx himself supplied very little in the way of such a theory, except to hint that a supply and demand approach is all that can be expected:

When we refer to a monopoly price, we mean in general a price determined only by the purchasers' eagerness to buy and ability to pay, independent of the price determined by the general price of production, as well as by the value of the products (*Capital* III:775).

This does not take us very far either.

Marx's theory of rent raises similar difficulties. He distinguished between *absolute* and *differential rent*. The latter, which is closely related to Ricardian rent theory, will be considered in Chapter 9 as it implies the existence of alternative production processes. Marx's analysis of absolute rent was developed in the context of the transformation of values into prices of production (see above, section 6.2.4). The existence of landed property, he argued, impedes the free entry of capital which is necessary to equalise rates of profit throughout the economy. In agriculture 'capital meets an alien force which it can but partially, or not at all, overcome, and which limits its investment in certain spheres, admitting it only under conditions which wholly or partly exclude that general equalisation of surplus-value to an average profit' (*Capital* III:761). Agriculture had a below-average organic composition of capital, but agricultural commodities sell at their values and not at their (lower) prices of production. The difference is a 'surplus-profit', unique to agriculture, which accrues to the landlords in the form of absolute rent.

This ingenious argument has very strange implications, in that absolute rent would disappear altogether if the organic composition in farming were to rise to the social average, even though land remained a scarce, privately owned, non-reproducible resource essential to the production of many commodities. This is not a defensible position. It would be greatly preferable to treat absolute rent as a form of monopoly profit, its magnitude determined by the operation of supply and demand rather than by the theory of value. Marx flirts with this alternative, time and time again, in his rather convoluted discussions of the theory of rent. For example:



it should be borne in mind in considering the various forms of manifestation of ground-rent . . . that the price of things which have in themselves no value, i.e., are not the product of labour, such as land, or which at least cannot be reproduced by labour, such as antiques and works of art by certain masters, etc., may be determined by many fortuitous combinations. In order to sell a thing, nothing more is required than its capacity to be monopolised and alienated (*Capital* III:633, cf. *ibid.*:861).

In the end he rejected this approach. He was wrong to do so.

### Appendix: The algebra of Bortkiewicz's solution

We begin with equations [8.4]–[8.6]:

$$(c_1x + v_1y)(1 + r) = (c_1 + c_2 + c_3)x = a_1x \quad [8.4]$$

$$(c_2x + v_2y)(1 + r) = (v_1 + v_2 + v_3)y = a_2y \quad [8.5]$$

$$(c_3x + v_3y)(1 + r) = (s_1 + s_2 + s_3)z = a_3z \quad [8.6]$$

These can be simplified by writing

$$f_i = c_i/v_i \quad [8.7]$$

and

$$g_i = (c_i + v_i + s_i)/c_i \quad i = 1, 2, 3 \quad [8.8]$$

In our example,  $f_1 = c_1/v_1 = 80/20 = 4$ ;  $f_2 = 0.4$ ;  $f_3 = 2$ ;  $g_1 = (80 + 20 + 20)/80 = 1.5$ ;  $g_2 = 6$ ;  $g_3 = 2$ .

Substituting equations [8.4] and [8.5] into [8.1]–[8.3] we obtain

$$(x + f_1y)(1 + r) = g_1x \quad [8.9]$$

$$(x + f_2y)(1 + r) = g_2y \quad [8.10]$$

$$(x + f_3y)(1 + r) = g_3z \quad [8.11]$$

Now since  $z = 1$ , we have

$$(x + f_3y)(1 + r) = g_3 \quad [8.12]$$

From equation [8.9] we find that

$$x = \frac{f_1y(1 + r)}{g_1 - (1 + r)} \quad [8.13]$$

From equations [8.10] we find that

$$x = \frac{y[g_2 - f_2(1 + r)]}{(1 + r)} \quad [8.14]$$

And from equation [8.11] we find that

$$x = \frac{g_3 - f_3(1 + r)y}{(1 + r)} \quad [8.15]$$

Equating [8.13] and [8.14] we obtain

$$(f_2 - f_1)(1 + r^2) - (g_2 + g_1 f_2)(1 + r) + g_1 g_2 = 0 \quad [8.16]$$

Using the rule for the solution of quadratic equations, we find that

$$(1 + r) = \frac{(g_2 + g_1 f_2) \pm \sqrt{(g_2 + g_1 f_2)^2 - 4g_1 g_2(f_2 - f_1)}}{2(f_2 - f_1)} \quad [8.17]$$

Note that neither  $g_3$  nor  $f_3$  appears in equation [8.17]. The rate of profit is thus wholly independent of the organic composition of capital in department III. This important result was stated very clearly by Ricardo (1821:118).

By equating the values for  $x$  given in equations [8.14] and [8.15] we can obtain

$$y = g_3 / [g_2 + (f_3 - f_2)(1 + r)] \quad [8.18]$$

It is now possible to find  $x$  by substituting the values of  $(1 + r)$  and  $y$ , which we have already found, into equation [8.13].

### Reading guide

There exists a voluminous literature on the transformation problem. The classic solution is by Bortkiewicz (1907), a simple exposition of which is given by Sweezy (1946:Ch. VII). Seton (1957) generalises Bortkiewicz's model from three departments to any number of separate industries; some knowledge of linear algebra is demanded by this important paper.

In the early 1970s renewed debate was provoked by Samuelson (1970, 1971, 1972, 1973, 1974a, 1974b), who is best read in *reverse* chronological order. Also involved were Baumol (1974), Bronfenbrenner (1973) and Morishima (1974), among many others, of whom Nuti (1977) and Shaikh (1977) are perhaps the best. A lucid non-mathematical survey is provided by Meek (1973: introduction; 1977b) and, less critical of Marx, by Fine and Harris (1979:Ch. 2).

Sraffa (1960) is important, but it is not an easy book to read. It is best approached by prior study of Meek (1961) and – requiring a little more mathematics – Bradley and Howard (1982b). Medio (1972) explores Sraffa's contribution to a solution of the transformation problem, while Steedman (1977:Chs 1–4) is much more sceptical.

On monopoly, Marx's own rather sketchy analysis is in *Capital* I: Ch. XV, and scattered throughout *Capital* III. There is very little secondary literature of any merit on this topic; a recent exception is Williams (1982), while the widely read book by Baran and Sweezy (1968) repudiates the labour theory of value from the outset.

Marx's theory of rent is discussed, favourably, by Ball (1977, 1980) and Fine (1979, 1980b, 1982:Ch. 4). A more critical perspective is supplied by Bandyopadhyay (1982) and Samuelson (1959). See also Kurz (1978).

# Alternative processes and joint production

## 9.1 Introduction

Everything we have written so far on the theory of value has rested on two important assumptions. The first is that there is one and only one technique of production available for each commodity, and the second is that each department or industry produces only one commodity. In brief, we have until now ignored alternative processes and joint production.

This may be confirmed by referring back to the numerical example used in our discussion of the transformation problem. The first section of Table 6.1, on which the subsequent analysis depends, describes the socio-technical conditions of production in a three-department economy producing steel, corn and gold. We assume that there are constant returns to scale in all departments, and that only one method of production exists for each of the three commodities. To produce 120 tons of steel, for example, requires inputs of 80 tons of steel and 40 hours of labour, so that the requirements per ton of steel output are  $\frac{2}{3}$  ton of steel and  $\frac{1}{3}$  hour of labour. There is no other way of producing steel. Similarly, the only available agricultural technique has input coefficients per quarter of corn of  $\frac{1}{6}$  ton of steel and  $\frac{5}{6}$  hours of labour; to produce each ounce of gold,  $\frac{1}{2}$  ton of steel and  $\frac{1}{2}$  hour of labour are necessary. Furthermore, each department has only a single output: there are no joint products.

Inspection of Marx's own numerical examples reveals that they, too depict single-process, single-product industries. The significance of these two assumptions is considerable. With them, it is possible to calculate the values of all commodities without difficulty, and also to guarantee that all values will be positive. Without them, neither result may hold. The existence of alternative processes renders labour values ambiguous, while joint production raises the possibility that values may be undefined or, if defined, that they may be zero or negative.

These inconvenient assertions are explored in the following two sections, and a solution to the problems encountered is outlined in section 9.4. As an introduction to the subsequent analysis, it may be helpful to show

exactly how the value system of Table 6.1 (p. 99) was derived from the conditions of production in each department. Given the production requirements per unit of output for each commodity, a system of three simultaneous equations can be formulated, in three unknowns:

$$2/3 \lambda_1 + 1/3 = \lambda_1 \quad [9.1]$$

$$1/6 \lambda_1 + 5/6 = \lambda_2 \quad [9.2]$$

$$1/2 \lambda_1 + 1/2 = \lambda_3 \quad [9.3]$$

The unknowns  $\lambda_1$ ,  $\lambda_2$  and  $\lambda_3$  are the values per unit of steel, corn and gold. In equation [9.1], for example, the value of a ton of steel ( $\lambda_1$ ) is given by the sum of the living labour (1/3) and the dead labour – 2/3 tons of steel times  $\lambda_1$ , the labour value of a ton of steel – required to produce it; and similarly for equations [9.2] and [9.3]. Simple manipulation gives  $\lambda_1 = \lambda_2 = \lambda_3 = 1$ . Indeed, the example was carefully chosen (for convenience of exposition) to yield this solution. Each of the three values is uniquely defined and greater than zero. These conclusions, to repeat, are ensured only because we are dealing with single-process, single-product industries.

## 9.2 Alternative methods of production

The consequences of dropping the first assumption may be illustrated by another simple example (Morishima 1973:189–90). Here there are two processes available for the production of steel, one with a high proportion of dead to living labour and the other with a lower ratio:

Process 1: 1/4 ton steel + 1/2 hour labour → 1 ton steel

Process 2: 1/2 ton steel + 1/4 hour labour → 1 ton steel

Writing  $\lambda$  as the value of a ton of steel, we have for process 1:

$$1/4 \lambda + 1/2 = \lambda$$

so that  $\lambda = 2/3$ ; and for process 2:

$$1/2 \lambda + 1/4 = \lambda$$

yielding  $\lambda = 1/2$ . If only one process is actually used, then the value of steel remains unambiguous. But what if both processes are employed? Is the value of steel equal to 2/3, which is the quantity of labour needed to produce it using process 1? Or 1/2, which is the amount needed in process 2? Or somewhere in between? More generally, are values to be defined in terms of the least amount of labour required for their production, or the most, or an average?

The importance of this question is considerable. In a closed capitalist economy (and ignoring problems associated with the use of land), two situations may be distinguished in which alternative processes of production might be in use at the same time. These may be termed the 'equal profit' and 'differential profit' cases. The two steel-producing techniques of

Morishima's example are equally profitable when the wage is unity, which occurs when the rate of profit is  $33 \frac{1}{3}$  per cent. This is easily demonstrated. Write  $p$  as the price of production of steel,  $w$  as the money wage rate (that is, the price of production of labour power in money terms), and  $r$  as the rate of profit. For the two processes to be equally profitable, there must be some set of values of  $p$ ,  $w$  and  $r$  which satisfies the two equations:

$$(1/4 p + 1/2 w)(1 + r) = p \quad [9.4]$$

and

$$(1/2 p + 1/4 w)(1 + r) = p \quad [9.5]$$

These equations simply show that the price of production of a ton of steel (on the right-hand side) must equal the cost price plus profits calculated at  $r$  per cent (the left-hand side). Dividing both sides by  $w$ , we can rewrite equations [9.4] and [9.5] as:

$$(1/4 p/w + 1/2)(1 + r) = p/w \quad [9.6]$$

and

$$(1/2 p/w + 1/4)(1 + r) = p/w \quad [9.7]$$

from which it is found that the required solution is  $r = 1/3$  and  $p/w = 1$ . Thus the two processes are equally profitable when the price of steel in terms of labour ( $p/w$ ) is unity and the rate of profit is  $33 \frac{1}{3}$  per cent. Evidently this does not prove that there will always be two equi-profitable ways of producing a commodity, only that there *may* be (and, indeed, there may be more than two).

The differential profit case may result from innovation. Any economy in which there is technical progress and where the latest processes are not instantaneously introduced by all producers will have in use at any time a range of techniques of different 'vintages'. In capitalism these processes will differ in profitability, their attractiveness varying inversely with their age. For example, the power-loom was – eventually – very much more profitable than the hand-loom, but they were employed side by side for decades. Generations later the traditional power-loom fought an unsuccessful but protracted battle with the automatic loom, itself the victim of more advanced technologies which gradually replaced it. The only single-process industries are stagnant ones.

Even unprogressive sectors will employ several techniques of production if different types of land are involved. Ricardo's analysis of the falling rate of profit illustrates precisely this point. The equations of Table 5.2 (p. 87) can be rewritten to describe a pair of alternative 'processes', one for each type of land. Assume for convenience that 300 acres of each type of land yield 300 quarters of corn, land one requiring less labour. Then we can write:

'Process' 1: 1 acre land 1 +  $2/3$  days labour  $\rightarrow$  1 quarter corn

'Process' 2: 1 acre land 2 +  $11/15$  days labour  $\rightarrow$  1 quarter corn

Not being itself a commodity, land has no labour value and can be ignored for the purpose of calculating the value of corn, which is  $2/3$  according to 'process' 1 and  $11/15$  in 'process' 2.

We shall discuss the merits of Ricardo's solution to this problem later in this section. For the moment, we explore the 'differential profit' case a little further, to assess its implications for the definition of labour values. In our steel example, suppose the wage, in terms of steel, to be halved, giving  $p/w$  (the inverse of  $w/p$ ) = 2. The rate of profit will now be different in the two processes, so that equations [9.6] and [9.7] must be rewritten as:

$$(1/4 p/w + 1/2)(1 + r_1) = p/w \quad [9.8]$$

and

$$(1/2 p/w + 1/4)(1 + r_2) = p/w \quad [9.9]$$

Substituting  $p/w = 2$  into equations [9.8] and [9.9], we find that  $r_1 = 100$  per cent and  $r_2 = 60$  per cent. Capitalists operating process 1 thus receive higher profits, analogous to the differential rent paid, in Ricardo's example, to the owners of Land 1. Such *surplus profit* (*Capital* III:641) is known in neoclassical economics as 'quasi-rents', the qualification emphasising that they are only temporary and will tend to disappear as competitive pressure leads to the elimination of the unprofitable process 2. Until that elimination is complete, however, the value of steel is ambiguous.

What is true within national boundaries is even more significant in international trade. Let process 1 in our example represent the British steel industry, and process 2 the Japanese industry. British steel competes on the world market with the Japanese product, selling at the same world price of production,  $p$ . Assume that capital is sufficiently mobile between countries for the rate of profit to be equal in Britain and Japan. British wages, however, are lower than the Japanese. Putting  $r_1 = r_2 = r$  but  $w_1 < w_2$ , we can rewrite equations [9.8] and [9.9] as:

$$(1/4 p/w_1 + 1/2)(1 + r) = p/w_1 \quad [9.10]$$

and

$$(1/2 p/w_2 + 1/4)(1 + r) = p/w_2 \quad [9.11]$$

If  $r = 10$  per cent, equations [9.10] and [9.11] can be solved to give  $w_1/p = 29/22$  ( $= 1.318$ ) and  $w_2/p = 18/11$  ( $= 1.636$ ), confirming that wages are lower in Britain. We know that the price of production of steel is the same, no matter where it is produced. But what is the *international value* of steel? Its British value ( $2/3$ ), its Japanese value ( $1/2$ ), or some average of the two? Suppose, to interpret our example slightly differently, that British and Japanese steel were traded for each other, ton for ton (there may be, for instance, some minor variation in technical specifications). Then  $1/2$  hour of Japanese labour is exchanged for  $2/3$  hour of British labour. Does this trade constitute an *unequal exchange*, because different amounts of labour are involved? Or does an hour of British labour simply create less value than

an hour's work in Japan, so that equal amounts are none the less exchanged?

Analysis of the world market was to have come in one of those volumes of *Capital* which Marx was never able to write, and so he had very little to say on the question of unequal exchange in international trade. Despite his continual use of simplifying assumptions, though, Marx knew very well that the coexistence of alternative techniques of production is extremely common in actual capitalist economies. He faced up to the problem at several points in his work, most notably in discussing the value of agricultural commodities but also in the context of foreign trade and of industries where both steam and water power were in regular use. Marx distinguished the *market value* of a commodity from its *individual value*:

On the one hand, market-value is to be viewed as the average value of commodities produced in a single sphere, and, on the other, as the individual value of the commodities produced under average conditions of their respective sphere and forming the bulk of the products of that sphere. It is only in extraordinary combinations that commodities produced under the worst, or the most favourable, conditions regulate the market-value, which, in turn, forms the centre of fluctuation for market-prices (*Capital* III:178).

In equilibrium, Marx argued, it is the average quantity of labour that determines values, rather than the minimum or the maximum labour requirements, although there is one early and rather ambiguous passage where he appears to endorse minimum labour as a general rule (*PP*:157–61).

Marx's writings on this question are sometimes less than clear, and there is room for disagreement as to whether, by 'average', he meant the mean (weighted or unweighted) or the mode, which can be understood as referring to the typical or most used process. (See the references cited in the reading guide.) Our steel example can be invoked again to illustrate the difficulties which would arise in each case. Suppose prices and wage rates to be such that process 2 is more profitable than process 1, which it gradually supersedes over a period of more than twenty years. A given total output per annum of 100 tons of steel is then produced in different proportions by the two processes as time passes. In 1970, 90 tons come from the first process and 10 from the second, in 1980, 50 tons are produced by each; and in 1990 10 tons come from process 1 and 90 from process 2. It will be recalled that the quantity of labour needed to produce a ton of steel is  $2/3$  in process 1 and  $1/2$  in process 2, so that the total labour required to produce 100 tons of steel may be calculated as: in 1970,  $(90)(2/3) + (10)(1/2) = 65$ ; in 1980,  $(50)(2/3) + (50)(1/2) = 58.33$ ; and in 1990,  $(10)(2/3) + (90)(1/2) = 51.67$ . Hence the weighted mean value of steel, per ton, is 0.650, 0.583 and 0.517 respectively. The unweighted mean is constant at  $(1/2)(2/3 + 1/2) = 7/12 = 0.583$ . The modal quantity of labour is 0.667 in 1970 and 0.500 in 1990; it is undefined in 1980, when the two processes are equally intensely used.

Which of these three definitions of the 'average' quantity of embodied labour is to be preferred? There is some textual support for the modal interpretation, which has the advantage over the unweighted mean of declining over time in accordance with the reduction in the aggregate

amount of labour employed in steel production. The weighted mean shares this property, and can never be undefined (unlike the mode in 1980). It has the added merits of simplicity and, at least in appearance, of conformity with the basic principles of the labour theory of value. Compute the total amount of labour expended in the production of steel, it advises us. Divide this figure by the aggregate output of steel, in tons. The resulting number is the labour value of a ton of steel. Surely this was what Marx intended?

A case may however be made for the alternative definitions of value, which concentrate on that process which requires either the maximum or the minimum quantity of labour of all those in use at any given time. Consider first what may be regarded as a Ricardian solution to this problem. As we saw in section 5.3.4, Ricardo defined the value of corn as the amount of labour needed to produce it under the least favourable conditions. This is clearly no solution at all to the equal-profit case, where capitalists have no reason to favour any one process over all the others. In the differential-profit case, though, Ricardo's approach can be generalised from agriculture to industry, to define value as the amount of embodied labour necessary for production in the least profitable technique currently employed. In our steel example, this is process 1 for all rates of profit below  $33\frac{1}{3}$  per cent. For Ricardo, then, the value of steel remains constant, and equals  $\frac{2}{3}$ , so long as process 1 is employed. Capitalists using process 2 receive surplus profits, or 'quasi-rents', analogous to the rents paid to the owners of Land 1 in the example of Chapter 5.

It must be said in favour of this solution that the *price* of corn (or steel, or whatever) will correspond to conditions of production 'at the margin', to use a neoclassical phrase. Price and labour value are thus equal, which will not be true if value is defined in average terms. Moreover, Marx's treatment of differential rent is essentially a Ricardian one. His 'differential rent I' applies where 'equal capitals are invested side by side in equal areas of land with unequal results' while, for 'differential rent II', 'they are invested successively in the same land', again with unequal results (*Capital* III:675). In the former case, Marx concluded from a numerical example, 'since the rent is solely differential rent, this price of sixty shillings per quarter for the worst soil is equal to the price of production, that is, equal to the capital plus average profit' (*ibid.*:652). And 'it is . . . evident that differential rent II is merely differently expressed differential rent I, but identical to it in substance' (*ibid.*:678).

This similarity of analysis suggests that a Ricardian definition of value, while it goes against the letter of Marx's argument, does not do great violence to its spirit. There are, however, a number of disadvantages. There is surely something to be said for demanding a decline in the value of a commodity, if less and less labour is used (in the aggregate) in its production as time elapses. This, as we have seen, is not necessarily the case with a Ricardian, maximum-labour definition of value. At any one point in time, too, Ricardian values can give strange results. The bigger the gap between the labour requirements of differentially profitable processes, the bigger the



gap between the quantity of labour actually required in all processes and the (Ricardian) value of the commodity produced. Imagine a third process, using  $3/5$  tons of steel and  $1/10$  hour of labour per ton of steel produced. The quantity of labour directly and indirectly needed may be calculated as before:

$$3/5 \lambda + 1/10 = \lambda$$

so that  $\lambda = 1/4$ . But  $\lambda$  is no longer the *value* of steel, which remains at  $2/3$  so long as process 1 is employed. The value of the steel produced by process three is thus nearly three times as great as the labour embodied in it (since  $2/3 \div 1/4 = 8/3$ ). Much more outlandish results can easily be contrived.

There is one final, and decisive, objection to both definitions, the average (or Marxian) and the maximum (or Ricardian). Both require us to take as exogenously given the processes which, out of all those available, are actually used. If the choice of techniques were a matter of indifference to Marx, this might be considered unimportant. Since technical progress is a central element in Marx's theory of capitalist development, however, the problem cannot be shrugged off like this. These considerations work to the advantage of the third definition of value, in terms of minimum labour, since the analytical framework in which this definition is proposed permits us simultaneously to *determine* (rather than arbitrarily to assume) which of the available techniques the capitalist will actually choose to employ. Just how strong the arguments are in favour of this third approach can only be appreciated after we have looked at the problems posed for the labour theory of value by the existence of joint production.

### 9.3 Joint production and fixed capital

Abstracting from alternative means of raising sheep, the labour value of the beast can be calculated without difficulty. Not so the separate values of the wool and the mutton that it provides. The problem is how to allocate the total labour embodied in two (or more) such joint products between them. Once again, the definition of labour values proves problematical. This is not a trivial question, since by-products are extremely common in agricultural and manufacturing activities alike, and, as we shall see later in this section, the use of fixed capital raises similar difficulties.

If there are more products than processes for making them, as in the wool-mutton case just referred to, there is little more to be said; the problem is simply insoluble, or to be more precise, some arbitrary imputation procedure must be followed. When the number of products equals the number of processes, however, the simultaneous equation method used previously can again be invoked. But there is a major snag. Although values can indeed be calculated, there is no guarantee that they will be positive. The notion of negative values for commodities produced by (necessarily) positive amounts of human labour is very hard to accept. Even worse is possible. If the commodity or commodities with negative values enter into

surplus value (perhaps because they are objects of capitalist consumption), it may be that surplus value itself is negative, even though both aggregate profits and the rate of profit are positive.

These contentions can be illustrated by means of another numerical example (Steedman 1977:115). In process 1, 5 sticks of chalk and 1 hour of labour are used to produce 6 sticks of chalk and 1 pound of cheese. Process 2 uses 10 pounds of cheese and 1 hour of labour in the production of 3 sticks of chalk and 12 pounds of cheese. Writing  $\lambda_1$  and  $\lambda_2$  for the respective values of chalk and cheese, it follows that:

$$5 \lambda_1 + 1 = 6 \lambda_1 + \lambda_2$$

$$10 \lambda_2 + 1 = 3 \lambda_1 + 12 \lambda_2$$

Solving as before, we find that  $\lambda_1 = -1$  and  $\lambda_2 = 2$ . Note immediately the negative value for chalk and, therefore, for the constant capital employed in process 1 ( $5 \lambda_1 = -5$ ).

To demonstrate the possibility of negative surplus value we need to specify the quantities of necessary labour employed in each process. To do so we fix the value of labour power, setting the real wage per unit of labour equal to  $1/2$  stick of chalk plus  $5/6$  pound of cheese. In value terms this is  $(1/2)(-1) + (5/6)(2) = 7/6$ . We further assume that 6 hours of labour are employed, 5 in process 1 and 1 in process 2, so that (on the assumption of constant returns to scale) the conditions of production can be summarised as in Table 9.1. The value relations in the table are derived as follows. Constant capital is calculated by multiplying the quantities of means of production in each process by the values of the commodities concerned. Thus  $c_1 = (25)(-1) = -25$  and  $c_2 = (10)(2) = 20$ . Variable capital in process 1 is  $v_1 = (7/6)(5) = 35/6$ , and in process 2,  $v_2 = (7/6)(1) = 7/6$ . Surplus value is a residual, derived by subtracting from the value of the outputs of each process the inputs of constant and variable capital required to produce them. The value of the outputs of process 1 is  $a_1 = (30)(-1) + (5)(2) = -20$ , so that  $s_1 = a_1 - c_1 - v_1 = -20 - (-25) - (35/6) = -5/6$ . Similarly,  $a_2 = (3)(-1) + (12)(2) = 21$ , and  $s_2 = a_2 - c_2 - v_2 = 21 - 20 - 7/6 = -1/6$ . Total surplus value is  $s_1 + s_2 = (-5/6) + (-1/6) = -1$ . Total variable capital is  $v_1 + v_2 = (35/6) + (7/6) = 7$ , and exceeds the amount of living labour performed (which equals 6). The total value of output from the two processes ( $a_1 + a_2 = 1$ ) is even lower.

There is a sensible explanation of this counter-intuitive result. The net output of the system under discussion is the difference between the gross outputs of chalk and cheese and the inputs of the two commodities. It is equal to  $(33 - 25) = 8$  sticks of chalk plus  $(17 - 10) = 7$  pounds of cheese. Now suppose that process 1 is discarded, and just  $3 \frac{1}{2}$  hours of labour are employed on process 2. That gives:

$$35 \text{ pounds of cheese} + 3 \frac{1}{2} \text{ hours labour} \rightarrow 10 \frac{1}{2} \text{ sticks chalk} + 42 \text{ pounds cheese}$$

Table 9.1 An example of joint production

Conditions of production				
Process 1: 25 sticks chalk	+ 5 hours labour → 30 sticks chalk + 5 pounds cheese			
Process 2:	10 pounds cheese + 1 hour labour → 3 sticks chalk + 12 pounds cheese			
Labour values: (for $\lambda_1 = -1, \lambda_2 = 2$ )				
	$c$	$v$	$s$	$a$
Process 1:	-25	35/6	-5/6	-20
Process 2:	20	7/6	-1/6	21
Total	-5	7	-1	1

with a net output of  $10 \frac{1}{2}$  sticks of chalk plus 7 pounds of cheese. The withdrawal of  $2 \frac{1}{2}$  hours of labour (which has been reduced from 6 to  $3 \frac{1}{2}$ ) has resulted in an *increase* of  $2 \frac{1}{2}$  in the net output of chalk, and no change in the net output of cheese. This is how the production of chalk can be deemed to require negative quantities of labour, and to merit a negative value. An extension of this argument accounts also for the negativity of surplus value. The surplus product is what remains of the net product after the payment of wages. In our original example, using both processes and 6 hours of labour, this amounted to  $(8 - 3) = 5$  sticks of chalk and  $(7 - 5) = 2$  pounds of cheese. The latter component of the surplus product is positive, since  $(2)(2) = 4$ , but the former is negative and larger, because  $(5)(-1) = -5$ . Hence negative surplus value.

That an explanation can be provided does not mean that these results are any less damaging to the labour theory of value. It must be repeated that the rate of profit is positive and equal to 20 per cent in both processes. (This is demonstrated by Steedman 1977:156). Despite the attractions of process 2 for a socialist society interested in economising on human labour, capitalists will use both indifferently at the wage assumed. And there is an evident paradox in saying that surplus value is the source of profits, when surplus value is negative while profits are positive.

Joint production has additional significance because of its relevance for the valuation of fixed capital. With one exception (Ch. 6, Appendix II), we have, up to now, evaded this problem by dealing only with circulating capital. As a simplifying assumption this had its advantages, but the limitations are obvious. After all, Marx termed the most modern phase of capitalist industry 'machinofacture', and it is a universal feature of machinery that it is durable, lasting much longer than stocks of raw materials or wage-goods. A Marxian political economy incapable of coping with fixed capital is not worthy of the name.

The labour value of a brand-new machine (or building) can be worked out in the same way as that of any other commodity. *Used* machines, however, are another matter. Machines depreciate with use, and therefore decline in value over time. When he discussed fixed capital, Marx assumed straight-line depreciation, so that a machine with a life of, say, ten years, loses one-tenth of its original value every year. There are two objections to this procedure. First, as Marx himself knew, depreciation allowances and thus the life of a machine are not technical data but economic variables. Machinery is scrapped when it ceases to be profitable to operate it, not when it is completely worn out and physically incapable of further production. To explain precisely when a machine is scrapped we need a theory of economic obsolescence, which Marx does not provide and which would in general be inconsistent with the assumption of linear depreciation. Second, linear depreciation can give rise to absurd results (see, for example, the case cited by Steedman 1977:142-4, where *three*, different and mutually inconsistent, labour values are generated for the same old machines). There is no evidence that Marx was aware of this problem, but every reason to suppose

that he would have been seriously concerned by it.

In fact the use of fixed capital can best be treated as a form of joint production, which disposes of the second problem only to replace it with the renewed prospect of negative values. The suggestion that fixed capital involves joint production was first made by Malthus and Robert Torrens, and seems to have been accepted in principle by Marx (*Capital* I:213n.), though he did not take it any further. It was revived in the 1930s by John von Neumann. Later endorsed by Piero Sraffa, this treatment of fixed capital is now widely accepted as the only appropriate form of analysis.

To assess its implications, consider an industry which produces corn using as inputs living labour, corn itself, and a machine with a life of exactly two years. For simplicity we assume that physical and economic obsolescence for once coincide (a complete model would determine the economic life of the machine as an endogenous variable). The example, summarised in Table 9.2, is again Steedman's (1977:145–6). Three processes are used. In the first, 3 quarters of corn and 3 hours of labour produce three new machines (the mechanisation of machine-making would only complicate the argument). The second process uses the three new machines, together with 49 quarters of corn and 30 hours of labour, to produce 88 quarters of corn *and* three old machines. This is where the joint production arises: the old machines are just as much the result of the production of corn by process 2 as is the corn itself. Finally, the third process uses the three one-year-old machines, in addition to 3 quarters of corn and 30 hours of labour, to produce 30 quarters of corn. This time there is no joint production, as the old machines are assumed to be obsolete at the end of the second year. Note that processes 2 and 3 offer alternative methods of producing corn, but in this instance the number of products is equal to the number of processes employed.

Solving the three simultaneous equations for the values of corn ( $\lambda_1$ ), the new machine ( $\lambda_2$ ) and the old machine ( $\lambda_3$ ), gives  $\lambda_1 = 1$ ,  $\lambda_2 = 2$  and  $\lambda_3 = -1$ . The value of the old machine is negative, for reasons similar to those already adduced above. One significant difference should however be noted. In this example, unlike that of Table 9.1, we have observed a rigid distinction between commodities which serve only as means of production (old and new machines), and commodities which can function also as means of consumption (corn). As the value of corn is positive, and (in simple reproduction) all surplus value is spent on corn, surplus value cannot be negative. In general it can be shown that the use of fixed capital does not give rise to the possibility of negative surplus value when profits are positive. Only the values of old machines may fall below zero.

To summarise the argument of this chapter so far: alternative processes and joint products pose severe difficulties for the labour theory of value. The former may leave values undefined, while with the latter there is the prospect of negative values and even (in some cases) negative surplus value. In the final section we show that these difficulties can be resolved – and can in fact only be resolved – by the adoption of an entirely new approach to the definition of value.

Table 9.2 An example of fixed capital

<i>Conditions of production</i>					
Process 1:	3 corn		+ 3 labour →	3 new machines	
Process 2:	49 corn + 3 new machines +		+ 30 labour →	88 corn	+ 3 old machines
Process 3:	3 corn	3 old machines +	30 labour →	30 corn	
Totals	55 corn	3 new machines	63 labour	118 corn	3 new machines 3 old machines
<i>Value equations</i>					
Process 1:	$3 \lambda_1$	+ 3 =	$3 \lambda_2$		
Process 2:	$49 \lambda_1 + 3 \lambda_2$	+ 30 =	$88 \lambda_1$	+ $3 \lambda_3$	
Process 3:	$3 \lambda_1$	+ $3 \lambda_3 + 30 =$	$30 \lambda_1$		
Which yield $\lambda_1 = 1$ ; $\lambda_2 = 2$ ; $\lambda_3 = -1$ .					

### 9.4 A redefinition of value

We discussed in section 9.2 two of the three alternative concepts of value which are possible when more than one process of production is in use. In the present section we consider the third approach, which defines values according to the *minimum* amount of labour needed to produce them. There is very little evidence that this is what Marx meant by value, but there are strong reasons to suppose that it offers the only chance of avoiding the anomalies of negative values and negative surplus value.

Look again at the example of Table 9.1. The net output of the economic system depicted there is 8 sticks of chalk plus 7 pounds of cheese. The proposed redefinition of value is made in two stages. First, establish which process, or combination of processes, can produce this net output (or any other specified net output) with the least quantity of labour. Second, increase the required net output by one unit of chalk, and then by one unit of cheese, and calculate the increase (if any) in the amount of labour that is needed to do so. The values of the two commodities are defined as the respective increases in labour requirements resulting from unit increases in the net outputs. A neoclassical economist would say – with some justice? – that they are the inverses of the marginal physical products of labour with respect to chalk and cheese.

Mathematically, the first stage is a linear programming problem (see the Appendix to this chapter). Its solution – and this is no surprise, in view of what we already know about the two processes – tells us to close down process 1 and employ  $3\frac{1}{2}$  hours of labour in process 2. The resulting net output is  $10\frac{1}{2}$  sticks of chalk and 7 pounds of cheese;  $2\frac{1}{2}$  sticks of chalk are surplus to requirements, and can be thrown away (without cost, it is assumed). In the second stages of the analysis, it can be seen that the re-defined labour value of chalk must be zero, since an increase in the desired net output from 8 chalk plus 7 cheese to 9 chalk plus 7 cheese would require no extra labour at all. The value of cheese is found to be  $\frac{1}{2}$ , since an increase in net output from 8 chalk plus 7 cheese to 8 chalk plus 8 cheese requires that 4 rather than  $3\frac{1}{2}$  hours of labour are employed (all of them in process 2, needless to say).

The zero value for chalk is not unreasonable. Suppose that there also exists a single-product process for the production of chalk. Labour employed in this process could not be regarded as socially necessary, given the glut of the commodity available from the existing process 2, and labour used in the new process would therefore not create value at all. It can, however, be shown that *negative* values are impossible once value is re-defined in this way, so long as the economic system is viable in the sense that it is possible for all net outputs to be positive. Surplus value is calculated as follows. Define necessary labour as the minimum required to produce the means of subsistence consumed by the workers in the actual system of Table 8.1. The required 3 sticks of chalk and 5 pounds of cheese can be produced by the employment of  $2\frac{1}{2}$  hours of labour on process 2 (which yields  $7\frac{1}{2}$

sticks of chalk and 5 pounds of cheese). Necessary labour is thus  $2 \frac{1}{2}$ . Total living labour is 6 hours, and surplus labour is derived by subtracting necessary labour from it. Hence surplus value is  $(6 - 2 \frac{1}{2}) = 3 \frac{1}{2}$ , and the rate of exploitation is  $s/v = (3 \frac{1}{2}) / (2 \frac{1}{2}) = 140$  per cent, which is reassuringly positive (unlike the rate of exploitation found when values are calculated by the simultaneous equation method of Table 9.1, which was  $(-1)/(7) = -14.3$  per cent).

One implication of this redefinition is that values become *non-additive*: it is no longer possible to calculate the value of total output by summing the constant capital, variable capital and surplus value in all parts of the economy. This is demonstrated in Table 9.3, where conditions of production are identical with those in Table 9.1 but values are defined in terms of minimum labour. The values of constant capital and total output in each process are calculated by multiplying the relevant quantities of chalk and cheese by their redefined values (0 and  $\frac{1}{2}$ ). The total output of process 1, for example, has a value of  $(30)(0) + (5)(\frac{1}{2}) = 2 \frac{1}{2}$ . Variable capital and surplus value in each process are worked out as follows. We know that total variable capital is  $2 \frac{1}{2}$ . It is allocated between the two processes in the proportions 5 : 1, giving  $\frac{25}{12}$  and  $\frac{5}{12}$ . Surplus values are found by multiplying variable capital by the rate of exploitation (140 per cent), to give  $\frac{35}{12}$  and  $\frac{7}{12}$ . Now read along the rows. For process 2, the value of output (6) does equal the sum of constant capital plus variable capital plus surplus value ( $5 + \frac{5}{12} + \frac{7}{12}$ ). But this is not the case for process 1 ( $0 + \frac{25}{12} + \frac{35}{12} \neq 2 \frac{1}{2}$ ), nor for the sum of the two processes ( $5 + 2 \frac{1}{2} + 3 \frac{1}{2} \neq 8 \frac{1}{2}$ ). Marx always assumed values to be additive. Nevertheless, additivity is a casualty of this analysis of value.

What does survive is the *Fundamental Marxian Theorem*, which states that a positive rate of exploitation is both a necessary and a sufficient condition for a positive rate of profit. Until quite recently the theorem was regarded as too obvious to be of any great interest, let alone to be in need of formal proof. But this was quite wrong, for its truth is guaranteed in the presence of joint production only if values are redefined, as in the present chapter, in terms of minimum labour requirements. To what extent the Fundamental Marxian Theorem may be regarded as vindicating Marx's claims for his analysis of value and exploitation is the subject of the next chapter.

One final matter to be considered is the effect which alternative processes and joint production have upon the analysis of section 8.3. The existence and concurrent use of alternative production processes alone causes no problems in this connection. A standard commodity can still be constructed as before. (The only difference is that it may change if there is a change in the processes actually used, or a change in the proportions in which competing and concurrently used processes are operated.) The effect of joint production is, however, more serious. For example, in the absence of joint production it is not possible to imagine an economy in which the number of processes is less than the number of commodities produced. But



Table 9.3 An example of joint production revisited

<i>Conditions of production</i>				
Process 1:	25 sticks chalk	+ 5 hours labour → 30 sticks chalk + 5 pounds cheese		
Process 2:	10 pounds cheese + 1 hour labour	→ 3 sticks chalk + 12 pounds cheese		
<i>Labour values:</i> (for $\lambda_1 = 0, \lambda_2 = 1/2$ )				
	<i>c</i>	<i>v</i>	<i>s</i>	<i>a</i>
Process 1:	0	25/12	35/12	2 1/2
Process 2:	5	5/12	7/12	6
Total	5	2 1/2	3 1/2	8 1/2

once we allow for joint production such an inequality becomes perfectly possible, and there may then be no way in which the processes can be combined together so as to construct a standard system in which the composition of the means of production is exactly that of net output. Since the standard commodity cannot then be formed, the arguments of section 8.3 would be inapplicable.

### Appendix: A linear programming approach to the redefinition of value

For an economic system with  $n$  commodity inputs and  $n$  outputs, the following matrix notation is adopted:

- $A$  is the  $(n \times n)$  matrix of inputs of means of production;
- $B$  is the corresponding  $(n \times n)$  matrix of gross outputs;
- $y$  is the  $(n \times 1)$  vector of the net outputs that are specified exogenously;
- $l$  is the  $(1 \times n)$  vector of inputs of living labour;
- $x$  is the  $(n \times 1)$  vector of process intensities.

The programming problem is, in general, to minimise

$$L = l \cdot x \quad [9.12]$$

subject to

$$Bx \geq Ax + y \quad \text{and} \quad x \geq 0 \quad [9.13]$$

Equation [9.12] represents the sum of the living labour employed in all processes. Equation [9.13] states that the gross output of every commodity must be at least equal to the amount required as inputs, plus the specified net output.

For the numerical example of Table 9.1:

$$A = \begin{bmatrix} 5 & 0 \\ 0 & 10 \end{bmatrix}, \quad B = \begin{bmatrix} 6 & 3 \\ 1 & 12 \end{bmatrix}, \quad l = [1, 1] \quad y = \begin{bmatrix} 8 \\ 7 \end{bmatrix}$$

The problem is then to minimise

$$L = (1)(x_1) + (1)(x_2) \quad [9.14]$$

subject to:

$$\begin{bmatrix} 6 & 3 \\ 1 & 12 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \end{bmatrix} \geq \begin{bmatrix} 5 & 0 \\ 0 & 10 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \end{bmatrix} + \begin{bmatrix} 8 \\ 7 \end{bmatrix} \quad [9.15]$$

with the solution  $x_1 = 0$  and  $x_2 = 3.5$ .

This outline follows Morishima and Catephores (1978:33–4). In Steedman (1977:193–4) the notation is slightly different and the problem is to minimise the quantity of labour necessary to produce the required wage-goods. In effect,  $y = \begin{bmatrix} 3 \\ 3 \end{bmatrix}$ , and the solution is  $x_1 = 0$  and  $x_2 = 2.5$ . In both cases the substance of the argument is the same.

**Reading guide**

A general statement of Marx's position on market values and individual values is given in *Capital* III:175–6 and (less clearly) 194–5. The problem of international values is briefly discussed in *Capital* I:559–60, the value of agricultural produce in *TSV* II:203–5, and the coexistence within one country of alternative industrial techniques is analysed in *Capital* III:625–33. Marx's discussion of differential rent is to be found (at very great length) in *Capital* III:Chs XXXIX–XLIV, and also in *TSV* II:Chs XI–XII.

On the international application of the labour theory of value Shaikh (1979, 1980) is provocative and controversial. The concept of unequal exchange in international trade was pioneered by Emmanuel (1972), whose work is criticised and extended by Andersson (1976).

Some familiarity with linear algebra is essential for further reading on the Sraffa–von Neumann analysis. Subject to this reservation, Morishima (1973) and much of Steedman (1977) require relatively little knowledge of the theorems of matrix algebra, while Morishima and Catephores (1978) is rather more advanced. Roemer (1981:Chs 2–3) refines the analysis and generalises the Fundamental Marxian Theorem to non-constant returns to scale processes. Mathematically Roemer's is an advanced text, but everything is explained in words with admirable lucidity. Problems of joint production are discussed in Pasinetti (1980).

# An assessment of Marx's theory of value and exploitation

## 10.1 Introduction

Marx's analysis of value and exploitation is subtle and complex. It follows that no brief assessment can hope to be adequate. Controversy continues on almost every important issue. Even worse, there is no agreement among the competing schools of thought as to what is, and is not, an issue of substance. The present chapter is therefore inevitably contentious, perhaps more so than any other part of the book.

We proceed in the following manner. One way of approaching a theory is to ask what purpose, or purposes, it might serve. The theory may then be assessed in terms of its appropriateness for these purposes, and also according to the importance of the functions that it performs. Why postulate a labour theory of value, then, and why a theory of surplus value? There appear to us to be three possible answers to this question. Firstly, Marx's theory of value and exploitation may be used as the basis for an *ethical criticism* of the capitalist mode of production, concentrating on the injustice of its allocative and distributive mechanisms. Secondly, the theory may form the basis for *quantitative economic analysis*, in a rather technical sense; it may constitute a framework for the measurement of economic magnitudes and for the formulation of hypotheses with respect to their evolution over time. Thirdly, Marx's writings on value and exploitation may be viewed as a powerful *qualitative social analysis* which helps us to uncover essential structures and relationships which would otherwise remain hidden.

In the following three sections we deal with these interpretations in turn. Briefly, to anticipate the argument, we suggest that Marx's analysis of value and exploitation is appropriate only for the third purpose, which it continues to serve well.

## 10.2 Ethical aspects of value and exploitation

In both the history and the historiography of economic thought the labour theory of value has often been closely associated with the ethical criti-

cism of capitalist society. Early formulations of the labour theory were made, late in the seventeenth century, under the influence of the philosophy of *natural rights*, according to which only the performance of labour afforded a legitimate claim to property ownership. If one possessed a commodity without having worked to produce it, or having exchanged it for something of equivalent value that one had produced, one's moral right to ownership could not be maintained.

In some hands this argument became a (classical liberal) justification for property in general, which was defended as the product of the owner's labour, either recently or in the remote past. Others drew quite different conclusions. Early socialist writers argued that the wealthy could not possibly justify their great fortunes by reference to their work, nor even by pointing to the labour of their ancestors. Their wealth was thus the product of fraud, or theft, or plunder. This carried implications for the theory of value, or so it was believed. In capitalist society commodities were sold at prices exceeding their labour values, because profits and rents were added on. Natural right demanded that the labourer should enjoy the right to the whole produce of his (or her) labour, and this in turn required that all commodities should sell at their labour values. There would then be neither unequal exchange, nor exploitation; economic justice would be restored.

Generation after generation of critics have imputed similar views to Marx, in the face of all the textual evidence to the contrary. Marx, as we have seen, argued that in competitive capitalism commodities would sell *at*, not above, their labour values (or their prices of production, which in aggregate, he thought, amounted to the same thing). He demonstrated that unequal exchange was not a necessary condition for the existence of positive profits, which required only that the use value of labour power exceeded its exchange value. Labour power itself was sold at its labour value (or price of production), not below it, and still profits were made. In terms of the morality of capitalist society there is no injustice whatever in non-coercive transactions which take place under conditions of free competition. Moreover, Marx seems to imply, morality is, like political economy, historically specific, so that capitalism's own ethic is the only one that is relevant. Nor does he emphasise the moral significance of labour values in socialism.

It is true that passages can be found in Marx's writings to support the alternative view. More generally, it is evidently not the case that his description of capitalist economies is cold, dispassionate and devoid of moral indignation. Does this mean that Marx was inconsistent? Or did he perhaps regard the injustice of capitalist production as a real, but subsidiary, objection to it?

In the main, Marx's arguments for socialism were of a very distinctive nature. For him the fundamental issue was not justice, or natural rights, or even individual happiness, but rather human freedom, the fulfilment of human potential. This is the state towards which historical forces are working. It requires an expansion of the forces of production sufficient to remove the need for the drudgery of continuous manual labour and abolish

the specialisation inherent in the division of labour. For as long as capitalism contributed to the realisation of human freedom it was to be supported. The more surplus labour extracted from the proletariat the better, if not for them then for the human species as a whole. One way of stating this is to say that socialism was *right* only when it was also *necessary*: only when capitalism has accomplished its historic function, and had become a fetter upon the development of the productive forces.

There clearly is an ethical dimension to the argument, if only in the implicit acceptance that human potential should be fulfilled. Even a deterministic interpretation of Marx would not logically obviate the need for such a 'fundamental' moral decision: even if a state of affairs is inevitable, it is not nonsensical or contradictory to regret it. This is not a trivial matter either, in view of the immense human suffering associated with both the development of capitalism and the history of attempts (thus far) to overthrow it.

Marx may in fact have believed that the very nature of his theory overcame the dualism of facts and values. As we have seen in Chapter 3, sections 3.2 and 3.6, he did take the view that, although knowledge could transcend class in its validity, it did not wholly transcend a class perspective in its formulation. On this view, facts and values cannot be historically distinct spheres. Thus, in Marx's terms, socialism is not set up as an ethical goal and then means sought for its realisation. Instead, free action by the proletariat to realise socialism coincides with the objective developments which make it necessary. Put alternatively, the proletariat in the process of coming to understand capitalism as it actually *is* abolishes it in revolutionary action. The process of understanding what is, is not distinct from action to change what is. Class perspective, knowledge, commitment and action form wholes which are historically inseparable, so that the 'ideal' cannot be historically divorced from action to realise it, even if they can be divorced in logic.

There is no doubt that Marx himself was ambivalent in his ethical treatment of capitalism (we shall see this again in Ch. 14 when we consider his analysis of its imperialist expansion). Indeed, it is very difficult to see how such ambivalence could be avoided by someone who combined Marx's theory of history with a humanistic concern for the welfare of the species. What is not clear, however, is that Marx's attitude owed anything to his labour theory of value, or that he sought to include an explicit ethical component in that theory.

So much for Marx. One question remains to be answered. Might not the labour theory of value be regarded today, with or without Marx's authority, as a socialist ideal? Perhaps it may, but the arguments against so doing are extremely powerful. A truly communist society will be one where commodity production has been abolished, scarcity is a thing of the past, and prices (and also values) have no role to play. 'Market socialism' may well be inevitable as a transitional stage (though alienation and fetishism will persist, being inherent features of commodity production, and historical

experience suggests that the proposed transition is most unlikely to materialise). There is a rational case in such an economy for the sale of commodities at their labour values only if the composition of output is irrelevant to social needs. For example, to require that commodities exchange in proportion to their values and simultaneously to provide those commodities in the proportions best suited to social needs may be incompatible. Consider two commodities, each embodying 100 hours of homogeneous labour. Imagine that product A takes one year to produce and that the production period of product B is ten years. Since they embody the same labour, by hypothesis they sell at the same price. However, the production of B requires locking up labour in a process of production which yields no social benefit for many years. This would entail a reduction in the production of commodities of more immediate social usefulness and would possibly conflict with the production of outputs in proportions most suited to social needs.

### 10.3 Value, surplus value and quantitative economic analysis

Differing views are possible with respect to the labour theory of value as a weapon of moral criticism. No such dispute is possible concerning Marx's intention to apply the concepts of value and surplus value to the analysis of capitalist economic development. The full extent of his ambitions will become apparent in Part IV of this book. To anticipate a little, it will be seen there that almost all Marx's technical macroeconomic theory is expressed in labour values. This is true, for example, of his discussion of simple and expanded reproduction (Ch. 11) and of the nature and impact of technical change (Ch. 12). Nearly every concept is defined in terms of values, and almost every law or tendency is derived from the behaviour of value aggregates. In parts of *Capital* II and III extensive use is made of algebra, and there are frequent and often complicated numerical examples. All refer to labour values.

Why did Marx formulate his quantitative analysis in this way? There is no 'great contradiction' (unresolved in Marx's lifetime) between volumes I and II of *Capital*, where value and surplus value reign, and volume III with its prices of production and profits. We know that Marx's ideas on the transformation of values into prices, and surplus value into profit, were essentially complete *before* volumes I and II were written (see the reading guide to Ch. 6). Nor, we may be sure, did he hold the mistaken (and irrelevant) belief that the economic behaviour of workers and capitalists is a direct response to value magnitudes rather than price aggregates; he repeatedly, and correctly, denied that this is so. Marx's decision, in fact, was a methodological one. He argued that values and surplus values took logical priority over prices and profits (above, section 6.2.3). Vulgar or superficial economists might be content to argue in terms of prices. Scientific political economy must be set out in value terms.

There are two claims involved here. The first is that it is *necessary*

to analyse a capitalist economy in value terms. The second is that it is *possible* to do so, without contradiction or paradox. The first claim will be considered shortly. As regards the second claim, a brief recapitulation may be in order. We saw in Chapter 8 that Marx's 'transformation problem' can be solved. But throughout Chapter 8 joint production and alternative techniques were assumed to be absent. The introduction of these complications, it was shown in Chapter 9, rendered ambiguous the definition of labour values and raised the spectre of negative surplus value in an economy with positive profits. In addition, the standard commodity representation of the profit rate in terms of the labour values applicable to Sraffa's standard system may no longer be feasible.

The possibility of negative surplus value can be overcome by re-defining labour values in terms of minimum (rather than average) labour requirements. But this raises further difficulties. Firstly, the redefined values are no longer additive, so that the value of an individual commodity cannot be calculated by summing constant capital, variable capital and surplus value, as Marx assumed to be the case. It follows from this, secondly, that the solution to the transformation problem outlined in Chapter 8 is no longer valid, even in free competition. Moreover, Marx's analysis of capitalist development, which assumes additivity of values, must – at the very least – be fundamentally recast. It is clear that consideration of joint production and alternative techniques severely damages Marx's claim that quantitative value analysis is possible.

What does retain its validity is the *Fundamental Marxian Theorem*. This theorem states that, when all magnitudes are defined in terms of minimum labour requirements, a positive rate of exploitation is both a necessary and a sufficient condition for a positive rate of profit.\* The significance of the theorem can be disputed. According to the 'minimum labour' definition of value, necessary labour is seen as the labour necessary to produce the workers' means of subsistence if labour-minimising techniques were used throughout departments I and II. In fact profit-maximising techniques will be employed, and these will in general use more labour than the minimum. 'Necessary labour', in this formulation, becomes an abstraction, only tenuously related to the *actual* quantities of labour used in the economy. It may be a very tenuous relationship indeed. Technology is already such that robots could be used in almost every branch of production, dramatically reducing labour requirements for the production of virtually everything. In practice, of course, considerations of profitability have up to now prevented the introduction of robots on such a massive scale. 'Necessary labour', however, must be defined as if all production was already robotic.

Consider now the alleged necessity for quantitative value analysis (putting aside any doubts about its possibility). How can prices of production

\* The slightly stronger claim can also be substantiated, that there exists a monotonically increasing relationship between the rate of exploitation and the rate of profit: the higher the one, the higher is the other.



be arrived at, Marx asked, unless they are derived from labour values? What sense can be made of the rate of profit, unless it is deduced from the ratio of surplus value to the value of total capital employed? For once, the answer to these questions is simple. Many economists, and most notably Piero Sraffa, have shown that prices and profits can be determined without prior reference to values and surplus values, given knowledge only of the socio-technical conditions of production and of the distribution of the net product between capitalist and workers. In fact it is precisely these two pieces of data – conditions of production and income distribution – which are required for the derivation of values and surplus values also. The truth of these statements can be seen by referring back to the numerical illustrations used in previous chapters. Take, for example, that of Table 6.1 (p. 99). The table depicts a set of three production processes in which workers (performing living labour) transform means of production (or dead labour) into outputs of steel, corn and gold. Marx himself frequently described production processes in this fashion, omitting only the numbers.

The value system of Table 6.1 is derived, and can only be derived, from data on the conditions of production, with an additional assumption about the division of the net product between workers and capitalists. In this case, where the rate of exploitation is 100 per cent, it is assumed that the net product is distributed equally between capital and labour. The value of the output of steel, for example, is found by writing  $2/3 \lambda_1 + 1/3 = \lambda_1$  (above, p. 100), giving  $\lambda_1 = 1$  and  $c_1 = 80$ . There is no other way of calculating the value of steel (and thereby the value of constant capital), than by adding up the quantities of direct and indirect labour required to produce it. Similarly, there is no way of dividing the 40 units of living labour into their paid and unpaid components, without postulating a distribution of the net product (and hence a distribution of income) beforehand. Marx himself did not set out his examples explicitly in these terms, but he could not in logic deny that it is valid (indeed, necessary) to do so.

Marx would have obtained the 'price system' of Table 6.1 by transforming labour values. But prices can be obtained *directly* from knowledge of the conditions of production and the distribution of income. Similarly, the rate of profit can be calculated without the use of any quantities of embodied labour, or any ratio of such quantities. Instead of equations [9.1]–[9.3], we write:

$$(2/3 p_1 + 1/3 w) (1 + r) = p_1 \quad [10.1]$$

$$(1/6 p_1 + 5/6 w) (1 + r) = p_2 \quad [10.2]$$

$$(1/2 p_1 + 1/2 w) (1 + r) = p_3 \quad [10.3]$$

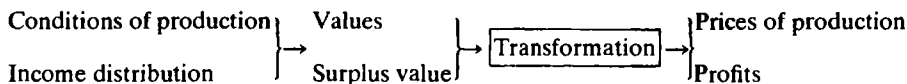
Here the input coefficients, derived on p. 100 above, are unchanged;  $p_1$ ,  $p_2$  and  $p_3$  stand for the prices of production of the three commodities;  $r$  is the rate of profit; and  $w$  is the wage rate. The equations state that, in free competition, each industry's receipts per unit of output must equal its 'cost-

price' plus profits at the average rate on capital employed (which, on our assumption that there is no fixed capital, equals the cost-price). In department I, for example, receipts per unit of output are  $p_1$  (the price of a ton of steel); the cost-price is  $(2/3 p_1 + 1/3 w)$ , since  $2/3$  of a ton of steel and  $1/3$  day of living labour are required to produce a ton of steel; and profits per ton are  $r (2/3 p_1 + 1/3 w)$ . There are three equations and five unknowns (three prices,  $r$  and  $w$ ). If we divide all three equations by  $p_3$  we eliminate an unknown and express all magnitudes in terms of gold. If we now set the real wage  $w/p_3 = 3/10$ , the system can be solved to give  $p_1/p_3 = 6/5$ ;  $p_2/p_3 = 3/5$ ; and  $r = 1/3$ . This corresponds exactly to the solution yielded by Bortkiewicz's transformation procedure (above, section 8.2), and yet *no reference whatever has been made to labour values or to surplus value*. These concepts, therefore, are not necessary for the correct calculation of prices of production and profits.\*

This conclusion is illustrated in Fig. 10.1 (adapted from King 1982:173). Marx's journey is from conditions of production, plus income distribution, through labour values and surplus value, to prices of production and profits. The shorter journey, missing out values and surplus value altogether, has the same starting-point and the same destination. (The figure omits the hazards that Marx's expedition risks, and the shorter trip avoids, due to the obstacles posed by joint production and alternative processes.) Was Marx's journey really necessary? Not, it must be concluded, if only quantitative economic analysis is at stake.

This conclusion does not, however, mean that one can jettison Marx in favour of Sraffa's theory of value as if this dispenses with all analytical

#### Marx's journey



#### An alternative journey

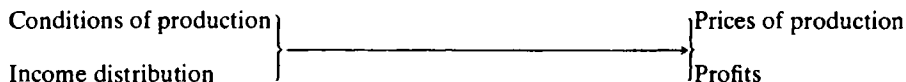


Fig. 10.1 Marx's journey – and an alternative.

\* Setting the real wage in terms of gold ( $w/p_3$ ) equal to  $3/10$  is equivalent to assuming a rate of exploitation of 100 per cent, which in turn assumes that the net product is equally shared between capitalists and workers. This may be seen as follows. With  $p_2/p_3 = 3/5$ , it is easily found that  $w/p_2 = (3/10)/(3/5) = 1/2$ . This is the real wage in terms of corn, and tells us that one hour of labour earns wages sufficient to buy  $1/2$  ton of corn. Thus 40 days of labour buys 20 tons of corn with a labour value of (20) (1) = 20. This is total necessary labour. Surplus labour is then found to be  $(40 - 20) = 20$ , so that the rate of exploitation =  $20/20 = 100$  per cent. Note again that this is *derived from* data on conditions of production and income distribution; it is not anterior to them.

problems. There are limitations with the Sraffian scheme or, as it is sometimes called, neo-Ricardian economics.\* It requires, for example, that the number of production processes in operation be no less than the number of commodities which are produced. Without this there is no way that relative prices and the unknown distribution variable can be determined from knowledge available about technology and distribution. However, it is difficult to provide a rationale as to why a capitalist economy should not exhibit such an inequality when there is joint production. (This in no way supports Marx against Sraffa: with the number of processes less than the number of products, Marx's labour values cannot even be computed.)

Another problem with neo-Ricardian economics is its requirement that the price of a commodity in outputs be the same as its price when used as an input. If this condition does not hold there is no way in which prices can be determined from the assumed knowledge about technology and distribution. Nevertheless, there is again no reason for believing that an equilibrium involving uniform wage rates and uniform profit rates will be characterised by stationary prices. Indeed, the equalisation of profit rates may in certain circumstances require prices to be non-stationary. (Again, this in no way supports Marx against Sraffa, because without the same assumption of stationary prices Marx's theory is also unable to determine prices from labour values). Thus, while neo-Ricardian economics is more general than Marx's theory of value so far as quantitative value analysis is concerned, neo-Ricardian economics has its own problems.

#### 10.4 Value, surplus value and qualitative social analysis

There remain to be considered the qualitative aspects of Marx's theories of value and exploitation. Why do commodities possess value? Why is it that profits accrue to capitalists, and landlords receive rent? His answers to these questions were deceptively simple. Value is the form taken by human labour in commodity production; profit and rent are the forms in which the surplus product appears in a capitalist society. A great deal follows from these bald statements.

The qualitative significance of labour value was discussed in some detail in Chapter 4. Briefly, the argument is this. In every society people participate in a division of labour in which the producers specialise, to a greater or lesser degree, in different tasks. When they exchange their products they are simultaneously exchanging their labour. Sometimes this exchange of labour is obvious, as in the primitive Indian communities described by Marx where the village blacksmith or shoemaker supplied the needs of the farmers in return for food. These *products* become *commodities* only when they are sold in the market, and are supplied in return for money.

\* This is not a particularly sensible term, if only because Ricardo himself defended the quantitative labour theory of value rather than proposing its abandonment. However, the term has stuck and we use it here.

In commodity-producing economies the division of labour remains: indeed, it is accentuated as specialisation grows. This gives rise to the great paradox of commodity production. As social co-operation in production intensifies, so economic activity increasingly takes the form of monetary exchanges between independent economic agents.

One consequence is an intensification of alienation. Production falls under the control of the market, and the disposition of human labour becomes increasingly subject to impersonal and apparently inexorable economic laws, working independently of conscious social control. People are dominated by their own products and are unable to recognise their alienated existence for what it is. The paradox of commodity production escapes them, and the profounder reality of the social exchange of labour disappears behind the superficial appearances of individual market exchange. Inanimate objects assume human properties, as people's consciousness is distorted. This fetishism is closely linked with commodity production: it is the result of a form of economic organisation in which labour produces value. That value is only one historically specific form of human labour is often overlooked by economists who are myopically concerned with quantitative problems. Possibly Marx's argument should be recast. Instead of a 'labour theory of value', we ought perhaps to talk of a 'value theory of labour'.

The qualitative focus of Marx's analysis of exploitation is similar. It stemmed from a critique of the fetishistic accounts of the origins of non-wage incomes which he frequently encountered (above, section 6.2). 'Holy Trinity' explanations of profits and rents, for example, invoke the productivity of the produced and non-produced means of production ('capital' and land). Against such arguments Marx showed that the analysis of income distribution must begin with the social relations of production. All but the most primitive economies are capable of generating a surplus product, that is, an excess of net output over the consumption requirements of the working people. Whether such a surplus is in fact produced, and how it is distributed between different groups of claimants, are questions which are decided by the class structure of the society concerned.

Not all economies which are capable of surplus production actually produce a surplus. The Australian Aborigines, for example, enjoyed free time instead (more so, in fact, than the European settlers who invaded their lands). Where there is a positive surplus product, it takes the form of profits and rent only where capitalist social relations prevail. These categories cannot be applied to the slave or feudal modes of production, where they would be absurdly anachronistic, nor to a future communist society, where they would have no meaning. Productivity explanations of distribution miss the point. All economies use land, and require the performance of labour. All employ produced means of production, if only spears and boomerangs. But the concepts of wages, profits and rent are intelligible only where there are distinct classes of wage-labourers, capitalists and landlords; that is, only in the capitalist mode of production.

Profits and rent, then, are the forms taken by the surplus product in capitalist society. They exist because of the class monopolies of capitalists and landlords over the produced and non-produced means of production. Leaving rents aside for the moment, it is possible to demonstrate that profits will be positive if and only if positive surplus labour is performed by the workers. This Fundamental Marxian Theorem does not *add* anything to the qualitative analysis of exploitation, as Marx seems to have believed. It is simply a different means of expressing the outcome of a particular pattern of class domination. It is, to repeat, the capitalist class structure that provides the answer to the question, 'Why profits?'

The quantitative and qualitative aspects of Marx's theory are logically separate, in the sense that one may (as we do) reject the former while continuing to advocate the latter. Our claim, in short, is this. Marx's quantitative analysis of value and surplus value is neither necessary nor particularly successful, while his treatment of alienation, fetishism and the origins of profits is indispensable for an understanding of the capitalist mode of production.

This is a very controversial statement. The points of contention have usually arisen in the context of opposition to neo-Ricardian economics and preference for Marx's quantitative value theory. Many believe that a Sraffa-von Neumann or neo-Ricardian reformulation of Marxian theory is fundamentally inconsistent with the 'value theory of labour' and the qualitative theory of exploitation that we have outlined. To a large extent this is merely unsupported dogmatic assertion, frequently motivated by a desire to defend at all costs Marx's analysis in the exact forms in which he set it out, down to the last comma. There is also, however, a serious methodological case to be answered. Or, rather, there are two cases. We saw in the previous section that (subject to certain provisions) prices and profits can be determined by reference only to the conditions of production and to the distribution of income between wages and profits. Critics of this argument allege that it involves commodity fetishism, since its undue reliance on the conditions of production suppresses social relations in favour of technical data. They object also to the prominence of income distribution, which, it is claimed, exaggerates the role of market relations (wage determination, involving phenomena of exchange or distribution) at the expense of production relations. The result, it is suggested, is a superficial treatment of appearances rather than a satisfactory analysis of the underlying reality. The 'neo-Ricardians', it is concluded, are simply vulgar economists in disguise.

It is unlikely that both charges can be correct, since the former concedes what the latter denies, that is, that production is at the centre of the 'neo-Ricardian' analysis. Both may, however, be false. In fact there is some justice in the first accusation, but only as regards the dangers of slovenly and misleading use of language. It is not the case that 'conditions of production' are 'given by technology', as if technology was somehow independent of human agency and design. Nor is it true, as is often implied, that input coefficients can be specified without any mention of the social conflicts

that are an inherent part of the capitalist labour process (see above, section 7.4). 'Neo-Ricardian' economists who actually take these erroneous positions are indeed the victims of fetishism. But it is not an inescapable logical consequence of their analysis, and it can be avoided altogether by a clear and careful formulation of the arguments. Indeed, orthodox Marxists often seem to be the most impressed by the awesome alien power of capitalist technology, and even Marx was not entirely innocent on this score. A mechanical, dehumanised view of production is most certainly to be rejected, but it is not the inevitable result of abandoning the quantitative labour theory of value.

The second criticism can be countered in several ways. Firstly, it is easy to show that Marx himself is no less vulnerable than the 'neo-Ricardians' to complaints of superficiality, since his quantitative analysis of surplus value required a detailed discussion of wage determination. This was undertaken in Parts VI and VII of the first volume of *Capital*, belying the characterisation of this volume by the orthodox Marxists as concentrating exclusively upon 'production' as against 'distribution' and 'exchange' (supposedly introduced only in the second and third volumes). Of course, Marx did not really violate his own methodological precepts in such a crass manner. On the contrary, he sometimes insisted that production cannot be sharply delineated from distribution (or exchange) as the orthodox Marxists imply (see, for example, *Grundrisse*: 88–100). Wages and work effort are determined simultaneously, as the joint outcome of a single process of bargaining and class struggle. They are so intimately connected, in fact, that there is no justification for separating them in the way that is proposed, relegating one (wage determination) to a lower level of analysis than the other (work intensity).

Finally, in reply to the second methodological criticism, it should be noted that there is a sense in which production is fundamental, for the dissenters and the orthodox Marxists alike. Both endorse Marx's qualitative theory of exploitation. Hence both agree that the social relations of production are at the heart of an explanation of profits, for it is the social relations of production that give meaning and relevance to such categories as 'wages' and 'profits' in the first place. Relations of distribution and exchange, important though they are, are in the last resort subsidiary.

On all these grounds the charge of vulgarity or superficiality can successfully be denied. Acceptance of Marx's social analysis of alienation, fetishism and the origins of profits does not entail support for his quantitative theory of labour value and surplus value. Some parts of Marx's journey really were necessary; others were not.\*

\* Furthermore, accepting that neo-Ricardian economics is more general than Marx's economics for quantitative value analysis does not involve an unmarxian perspective. There are problems with neo-Ricardian economics, as we have indicated at the end of the previous section, but the problems are not of this form.

### Reading guide

The classic interpretations of the labour theory of value as a weapon of moral criticism are Foxwell (1899) and Myrdal (1953). On the theory's defects as a tool of 'socialist' planning, see Dobb (1969), Meek (1973:Ch. 7) and Robinson (1942: appendix to Ch. 3). Marx's treatment of moral issues is discussed in Buchanan (1982), Lukacs (1923), MacIntyre (1966) and Nielson and Patten (1981).

A theory of exploitation can be formulated in terms of any basic commodity. Reasons for privileging surplus *labour*, rather than surplus energy or (more facetiously) surplus peanuts are explored by Gintis and Bowles (1981) and Roemer (1981:204–8). Hodgson (1980, 1982) attempts to construct a comprehensive post-Marxian theory of exploitation.

The 'value theory of labour' is expounded by Elson (1979), the originator of the term. Blainey (1976) and Sahlins (1972: Ch. 1) offer vivid insights into Stone Age economies. Gintis and Bowles (1981), Roemer (1979) and Steedman (1977:Ch. 6) demonstrate the ability of 'neo-Ricardian' economics to analyse the capitalist labour process.

There is a massive literature on the more general 'neo-Ricardian' controversy. That the labour theory of value is not necessary to the quantitative determination of prices and profits is argued most vigorously by Hodgson (1977), Samuelson (1973) and Steedman (1977); see also Lippi (1979), Meek (1977c) and Roemer (1981:Ch. 2). For the opposing viewpoint see Fine (1980a:Ch. 6; 1982:Ch. 3), Fine and Harris (1979:Ch. 2), Roosevelt (1975), Rowthorn (1974) and Sweezy (1979), though in the case of the last two writers practice and principle do not always coincide. Steedman *et al.* (1981) is a good collection of contrasting views. It contains two pieces by Wright (1979, 1981), who is virtually unique in having changed his mind in the course of the debates.

Criticism of neo-Ricardian economics has frequently been misplaced. However, the problems listed at the end of section 10.3 are further elaborated in Bradley and Howard (1982b), Hahn (1982) and Howard (1983:Ch. 15.)

## Part IV

# The dynamics of capitalism

The principal themes in Marx's analysis of capitalism's 'laws of motion' have already been outlined in Chapter 6. Here we explain them more fully and subject them to criticism.

Chapter 11 focuses upon the famous reproduction models, which seek to specify the conditions necessary for the different production sectors of a capitalist economy to complement each other appropriately, so that commodities are produced in exactly those proportions required by the system as a whole. This analysis, therefore, indicates the conditions which have to be fulfilled in production if a capitalist system is to be in equilibrium.

The reproduction models abstract from technical change. But innovation plays a central role in Marx's economics. The new technologies which are incorporated through the accumulation of capital result in a falling rate of profit. They also raise the level of unemployment, which prevents working-class living standards from rising on a sustained basis. These two effects of technical change form the subject-matter of Chapter 12.

Economic disharmony is further exacerbated by repeated crises in which there occurs an overproduction of commodities, relative to demand, so that surplus value cannot be fully realised. These crises result in a temporary disruption in the processes of reproduction and accumulation, and are examined in Chapter 13.

All these attributes of capitalist development are analysed assuming a closed economy. But Marx also maintains that capitalism increases international trade and generates international capital movements. This extends beyond the relations of sovereign national capitalisms to involve non-capitalist modes of production, together with their political and cultural superstructures. The efficiency of capitalism is a disruptive force, and the resistance engendered can be overcome only through such overtly repressive measures as colonisation. Marx's views on the significance of this imperialist expansion are examined in Chapter 14.

In formulating these laws of motion Marx adopts two methodological procedures which it is advisable to comment upon at the outset. First, his formal economic analysis is considerably less rich than his informal



descriptions of these processes. Generally speaking, the analysis is confined to highly aggregated models from which many complexities are absent. In itself this is completely unobjectionable. Sometimes, though, the specific procedures used to overcome particular complications are drastic and open to criticism (see section 12.2). Second, all the dynamic analysis is cast in labour value categories, which we examined in Part III and found to be defective. This poses problems for exposition and evaluation, which in general we have resolved by retaining the value categories when it is possible to do so. We represent economic relations in physical quantities or price magnitudes only when necessary for logical reasoning or clarity of explanation. Naturally, whenever labour values are used the simplified economic circumstances needed for them to make sense are implicitly assumed to operate.

# The reproduction models

## 11.1 Introduction

The capitalist mode of production is a set of social relationships in which people and productive forces are combined to produce, exchange and utilise commodities. At the most general level, the reproduction of this mode raises the question of what mechanisms operate to replicate these social relationships and productive forces through time. Clearly it is not limited to economic phenomena, as the persistence of political structures and ideological beliefs is also involved. Nevertheless, a central issue is the economic conditions necessary for the reproduction of those means of production, including labour power, which are prerequisites for the production and realisation of surplus value.

The *reproduction models* which were presented by Marx at the end of *Capital II*, however, have an even more restricted focus. They throw light on only one dimension of the economics of the problem: the integration of production. Given that capitalism is a system based upon independent capitals, specific conditions must be met if the output of each is to dovetail with the requirements for its output which arise from all capitals together. The reproduction models seek to identify these conditions under various circumstances.

This issue is not identical with the problem of stating the conditions required if a capitalist economic system is to co-ordinate its separate spheres. Marx was also concerned with this question, but he realised that it was a more complicated matter, involving relations of circulation as well as those of production. Even if outputs were produced in appropriate proportions, there is no guarantee that co-ordination will materialise. The mechanisms involved in the circulation process are partially independent of those in production and must also function smoothly. Future input requirements need to be correctly perceived and adequate purchasing power has to be available and appropriately distributed so that the planned activities of the separate sectors can actually be carried out. However, Marx did take the view that a necessary (if not sufficient) condition for overall co-ordination

was the absence of major disproportions in the production of commodities. Consequently, although the reproduction models are concerned with the conditions required for co-ordinated production, they were intended as part of a wider and more complex analysis of those conditions required for complete co-ordination, involving the sphere of circulation as well as that of production.

Marx constructed two models of reproduction, one of *simple reproduction* and one of *extended reproduction*. Simple reproduction occurs in a capitalist system when it reproduces all its outputs unchanged in every period. There is no accumulation of capital, and outputs are used only as inputs to reproduce the same outputs in the subsequent period, or as consumer goods. Extended reproduction occurs when outputs grow through time; the mechanism of expansion is provided by the accumulation of capital via savings from surplus value.

The conditions necessary in simple reproduction for the integration of production departments are considered in section 11.2. The parallel conditions for extended reproduction are the topic of section 11.3. The principal conclusions which Marx derives in both cases is that, although these conditions do not preclude the possibility of fully co-ordinated production in a capitalist system, it is improbable that any actual system will satisfy them continuously. Since there is no conscious social regulation of capitalist production, some disproportionality is most likely, and it could be severe. (In the latter case there may develop a general overproduction of commodities and a resulting crisis of realising surplus value, as we will see in Ch. 13.) The chapter concludes with a critical assessment of Marx's analysis.

## 11.2 Simple reproduction

The model of simple reproduction is deliberately extremely unrealistic, abstracting from many essential characteristics of capitalism and in particular from accumulation. Marx believed, however, that such a model was useful for comprehending certain aspects of capitalist economic inter-relations in their clearest form. It serves him primarily in bringing leverage to bear on the more complex and realistic model of extended reproduction (though the latter is, as we shall see, also a highly abstract model).

In outlining Marx's model of simple reproduction, we first define some terms:

$c_i$     constant capital in department  $i$ ;

$v_i$     variable capital in department  $i$ ;

$s_i$     surplus value in department  $i$ ;

$a_i = c_i + v_i + s_i$     total value of the output of department  $i$ ;

$e_i = s_i/v_i$     rate of exploitation in department  $i$ ;

$k_i = c_i/v_i$     organic composition of capital in department  $i$ .

The assumptions on which the model is constructed are as follows:

1. All capitals are aggregated into two departments. Department I produces means of production ( $c$ ), while department II produces consumption goods (*Capital* II:372). (Marx sometimes subdivides department II into wage and luxury good sections; see, for example, *Capital* II:406.) Values provide the weights by means of which heterogeneous commodities are aggregated into the outputs of the two departments. Marx also assumes that the two types of commodities are distinct: that is, the output of department I cannot be consumed, and that of department II cannot serve as means of production.

2. The technology of the system is 'productive', in the sense that non-negative net outputs of all commodities can be produced from the inputs; this is a necessary condition for the system's ability to reproduce itself and is implicit in all Marx's analysis.

3. We are dealing with a capitalist economy with only two classes, capitalists and workers. There are no unproductive activities other than the consumption of the capitalists (*Capital* II:401; I:564). In particular there are no landlords and no government activities.

4. All commodities sell at their values; the model abstracts from the transformation of values into prices of production. Consequently Marx ignores credit and capital mobility between departments. Each capitalist uses only his own capital, and there is neither borrowing nor lending between departments. There is thus no tendency for the equalization of profit rates between departments (*Capital* II:412, 505, 435; I:564).

5. The capitalists carry out zero net saving and investment, so that their whole income (surplus value) is spent on consumer goods (*Capital* I:567).

6. The wage rate is fixed at subsistence level (see section 7.2), so that workers spend their entire income on wage goods; and the rate of exploitation ( $e_i = s_i/v_i$ ) is the same in each department (*Capital* II:512).

7. It is implicitly assumed that 'each production process is of the point-input-point-output type; inputs are made at the beginning of the production period and outputs obtained at the end of the period' (Morishima 1973:12). Thus  $v_i$  is both the annual wage bill paid by capitalists in department  $i$  and the amount of capital locked up as variable capital.

8. Marx assumes, in effect, that all capital wears out in the course of the production period (*Capital* II:400–1). Thus  $c_i$  represents both the amortisation flow in department  $i$  during the production period and its stock of constant capital at the beginning of that period.

9. The economy is closed, so that there is no foreign trade (*Capital* II:474).

10. There is no technical change (*Capital* II:393), and thus no change in the organic composition of capital ( $k_i = c_i/v_i$ ) in either department (though the organic compositions need not be the same in each department, and normally  $k_1 \neq k_2$ ).

Marx's analysis of simple reproduction involves several numerical

examples and a general algebraic formulation. We begin with the latter and then provide one of his numerical examples as an illustration. The aggregate value of gross output in each department ( $a_i$ ) consists of the value of the used-up-means of production ( $c_i$ ), the value of the labour power employed ( $v_i$ ) and the surplus value generated ( $s_i$ ). Thus in Marx's two-sector model we have:

$$a_1 = c_1 + v_1 + s_1 \quad [11.1]$$

$$a_2 = c_2 + v_2 + s_2 \quad [11.2]$$

Since both departments require means of production but only department I produces such commodities, full co-ordination requires that:

$$c_1 + c_2 = c_1 + v_1 + s_1 = a_1 \quad [11.3]$$

Equation [11.3] states that the requirements for means of production ( $c_1 + c_2$ ) must equal the output of such commodities ( $c_1 + v_1 + s_1$ ). Likewise, since capitalists and workers in department I cannot consume their own output, the sum of the consumption of capitalists and workers in both departments must be equal to  $a_2$ , so that:

$$v_1 + v_2 + s_1 + s_2 = c_2 + v_2 + s_2 = a_2 \quad [11.4]$$

Workers' consumption is ( $v_1 + v_2$ ) and capitalists' consumption is ( $s_1 + s_2$ ). Together these must equal the output of consumer goods, which is ( $c_2 + v_2 + s_2 = a_2$ ).

Clearly both equations [11.3] and [11.4] reduce to:

$$c_2 = v_1 + s_1 \quad [11.5]$$

Diagrammatically the relationship can be represented as:

$$\begin{array}{c} c_1 + \boxed{v_1 + s_1} \\ \swarrow \\ \boxed{c_2} + v_2 + s_2 \end{array}$$

Department I produces its own means of production for its replacement needs; it must obtain from department II the consumer goods needed to feed its workers and to provide for the consumption of its capitalists. Department II produces consumer goods for its own workers and capitalists; it requires means of production from department I to replace its constant capital. The boxed items must be equal in value if production in the two departments is to be integrated.

Marx gives the condition in algebraic form as equation [11.5] above (*Capital* II:406). This can be taken further. If we divide through by  $v_2$  we obtain:

$$\frac{c_2}{v_2} = \frac{v_1}{v_2} + \frac{s_1}{v_2}$$

which gives

$$k_2 = \frac{v_1}{v_2} \left\{ 1 + \frac{s_1}{v_1} \right\}$$

so that

$$\frac{v_1}{v_2} = \frac{k_2}{1 + e} \quad [11.6]$$

Thus the condition for fully co-ordinated simple reproduction is that the employment of variable capital in the two departments be in a specific ratio determined by the values of  $k_2$  and  $e$  as expressed in equation [11.6]

This algebraic formulation can be illustrated by one of Marx's numerical examples (taken from *Capital* II:401–2):

$$\text{Department I: } 4,000c_1 + \boxed{1,000v_1 + 1,000s_1} = 6,000a_1$$

$$\text{Department II: } \boxed{2,000c_2} + 500v_2 + 500s_2 = 3,000a_2$$

Consider department I: the  $4,000c_1$  consist of means of production, which are produced by department I itself; the  $1,000v_1$  and  $1,000s_1$  consist of consumer goods, which are produced by department II. Conversely, for department II, the  $500v_2$  and  $500s_2$  are consumer goods, produced within II itself; the  $2,000c_2$  are means of production, produced by I. Department I must thus obtain from department II a quantity of consumer goods sufficient to provide for its wage bill (equal to workers' consumption) and for the consumption of its capitalists. Department II, on the other hand, must obtain from department I a quantity of means of production sufficient to replace the constant capital used up in its production. Co-ordination means that these requirements are equal: in the example, at 2,000. It can easily be seen that equations [11.5] and [11.6] hold in this case.

### 11.3 Extended reproduction

Assumptions 1–4 and 6–10 of simple reproduction also hold in Marx's model of extended reproduction. The main difference between the two models is that assumption 5 of simple reproduction is dropped. Capitalists now save a proportion of their income, and invest it, thus increasing their capital and generating growth in their own departments. Marx supposes that the saving ratio is exogenously determined (*Capital* II:507), though as we shall see he relaxes this assumption somewhat in his numerical examples so far as the savings ratio in department II is concerned. Since surplus value is no longer wholly consumed, we must differentiate between its various components, and define the following terms:

$s_o$ , amount of surplus value consumed in department  $i$ ;

$s_c$ , amount of surplus value invested in additional constant capital in department  $i$ ;

$s_{v_i}$  amount of surplus value invested in additional variable capital in department  $i$ ;

$s_i = s_{o_i} + s_{c_i} + s_{v_i}$  total surplus value in department  $i$ .

Assumption 4 of simple reproduction still holds, so that capitalists invest only in their own department. Consequently:

$$I_i = \alpha_i s_i \quad [11.7]$$

where  $I_i$  = total investment in department  $i$ ;

$\alpha_i$  = the savings ratio of capitalists in department  $i$  (that is, the proportion of their surplus value that they save)

We still assume that there is no technical change, so that the organic compositions ( $k_1$  and  $k_2$ ) are constant. The allocation of investment between variable and constant capital is such that

$$I_i = \Delta c_i + \Delta v_i \quad [11.8]$$

and

$$\frac{\Delta c_i}{\Delta v_i} = \frac{c_i}{v_i} = k_i = \text{constant} \quad [11.9]$$

where  $\Delta c_i$  = addition to constant capital in department  $i$  ( $= s_{c_i}$ );

$\Delta v_i$  = addition to variable capital in department  $i$  ( $= s_{v_i}$ ).

The assumption that the investment of surplus value is restricted to the department in which it originates may seem inappropriate in the context of competition, which normally implies free mobility of capital between sectors. In fact Marx introduces the model of extended reproduction prior to transformation, so that it applies to the first stage of capitalist development discussed in section 4.9. Nevertheless, this is a limitation of Marx's analysis, to which we return in section 11.4.

The wage rate is still assumed to be fixed at the 'subsistence' level (see section 7.2). Since we are now dealing with extended reproduction, this implies that the supply of labour power is perfectly elastic at this wage (*Capital* II:505). Because there is no change in the organic composition of capital,  $c_i$  and  $v_i$  increase at the same rate so that employment grows equally rapidly as constant capital. Since we are now dealing with a growth model, some assumption about returns to scale becomes necessary: Marx implicitly postulates constant returns to scale in both departments. Clearly, with these additional assumptions, the condition for smooth reproduction will differ from that expressed for simple reproduction in equations [11.5] and [11.6] above. We now give the algebraic derivation of their counterparts for extended reproduction, and then analyse one of Marx's numerical examples.

We can write the outputs of the two department as:

$$a_1 = c_1 + v_1 + s_{o_1} + \Delta c_1 + \Delta v_1 \quad [11.10]$$

$$a_2 = c_2 + v_2 + s_{o_2} + \Delta c_2 + \Delta v_2 \quad [11.11]$$

For co-ordinated production we require:

$$a_1 = c_1 + c_2 + \Delta c_1 + \Delta c_2 \quad [11.12]$$

$$a_2 = v_1 + v_2 + \Delta v_1 + \Delta v_2 + s_{o_1} + s_{o_2} \quad [11.13]$$

The right-hand side of equation [11.12] shows that constant capital is needed in each department both to replace that used up and to provide for growth. The right-hand side of equation [11.13] shows that consumer goods are required in each department to support the existing and the additional workers, and to provide for the consumption of the capitalists. Equations [11.12] and [11.13] yield the same condition:\*

$$c_2 + \Delta c_1 + \Delta c_2 = v_1 + s_1 \quad [11.14]$$

This is the counterpart for extended reproduction of equation [11.5] in simple reproduction. It is stated by Marx (*Capital* II:521).

Equation [11.14] can also be written as:

$$c_2 + \Delta c_2 = v_1 + \Delta v_1 + s_{o_1} \quad [11.15]$$

Diagrammatically the relationships can be represented as follows:

$$\begin{array}{c} c_1 + \Delta c_1 + \boxed{v_1 + \Delta v_1 + s_{o_1}} \\ \boxed{c_2 + \Delta c_2} + v_2 + s_{o_2} + \Delta v_2 \end{array}$$

Department I produces its own means of production, for replacement and accumulation: it must obtain from department II the consumer goods needed to feed existing and additional workers, and to provide for capitalists' consumption. Department II produces consumer goods for its existing and additional workers, and for its capitalists; it requires means of production from department I to replace and extend its constant capital. The boxed items must be equal in value for production to be fully co-ordinated.

We can also derive the counterpart to equation [11.6] in simple reproduction. We define:

$$g_{v_i} = \frac{\Delta v_i}{v_i} \quad [11.16]$$

$$g_{c_i} = \frac{\Delta c_i}{c_i} \quad [11.17]$$

where  $g_{v_i}$  = the rate of growth of variable capital in department  $i$ ;  
 $g_{c_i}$  = the rate of growth of constant capital in department  $i$

Dividing both sides of equation [11.14] by  $v_2$ , and rearranging terms, we obtain:

\* This is clear if it is remembered that  $(a_1 - c_1) = v_1 + s_1$ ;  $(a_2 - v_2 - \Delta v_2 - s_{o_2}) = c_2 + \Delta c_2$ ; and  $s_1 = s_{o_1} + \Delta v_1 + \Delta c_1$ .



$$\frac{v_1}{v_2} = \frac{k_2(1 + g_{c_1})}{(1 + e - g_{c_1}k_1)} \quad [11.18]$$

This equation is the counterpart in extended reproduction of equation [11.6] in simple reproduction. Marx stated [11.14] but he did not go beyond it to [11.18], just as he did not derive [11.6] from [11.5].

He presented two main numerical examples of extended reproduction. The first (*Capital* II:514) is presented in Table 11.1. Marx assumed that  $\alpha_1$  is exogenously given, making the system expand along the path shown in the table. The equations [11.14] and [11.18] hold in every year. Note, however, that the system exhibits a peculiar savings – investment function in department II, in that capitalists are assumed to adjust their saving and investment in such a way as to ensure co-ordinated production. Marx assumes that the savings ratio in department I ( $\alpha_1$ ) is equal to 0.5 and is exogenously given. One-half of surplus value in department I is saved, and is invested in such a way as to preserve the existing proportions between constant and variable capital in that department. Given  $k_1 = 4$ , then in the initial year  $s_{c_1} = 400$  and  $s_{v_1} = 100$ . If there is no accumulation in department II (that is, if  $\alpha_2 = 0$ ), the total requirements for the output of department I would be, not as depicted in Table 11.1, but rather:

$$c_1 + \Delta c_1 + c_2 = 4,000 + 400 + 1,500 = 5,900$$

Since  $a_1 = 6,000$ , there is a surplus production of 100 in department I, so that there is a disproportion. If instead  $\alpha_2 = \alpha_1 = 0.5$ , the total requirement for the output of department I would be:

$$c_1 + \Delta c_1 + c_2 + \Delta c_2 = 4,000 + 400 + 1,500 + 250 = 6,150$$

This would mean a deficit of 150 in the production of department I, so that there would again be a disproportion. In order to achieve co-ordination, Marx makes  $\alpha_2$  adjustable. Thus in the first year he sets  $\alpha_2 = 0.2$ , which does lead to co-ordination, since:

$$c_1 + \Delta c_1 + c_2 + \Delta c_2 = 4,000 + 400 + 1,500 + 100 = 6,000$$

and the condition specified in equation [11.14] is now satisfied.

In the second year the savings ratio in department I is unchanged (that is,  $\alpha_1 = 0.5$ ). If  $\alpha_2 = 0$ , so that there is no accumulation in department II, the total requirement for the output of department I would be:

$$c_1 + \Delta c_1 + c_2 = 4,400 + 440 + 1,600 = 6,440$$

Since  $a_1 = 6,600$ , there would be a surplus of 160, again generating a disproportion between the departments. If instead department II had a savings ratio of 0.2, as in the first year, the total requirement for the output of department I would be:

$$c_1 + \Delta c_1 + c_2 + \Delta c_2 = 4,400 + 440 + 1,600 + 107 = 6,547$$

Table 11.1 Marx's numerical example of expanded reproduction

End of year	Department	Constant capital ( $c_i$ )	Variable capital ( $v_i$ )	Surplus value ( $s_i$ )	Surplus value consumed ( $s_{c_i}$ )	Surplus value invested in constant capital ( $s_c = \Delta c_i$ )	Surplus value invested in variable capital ( $s_v = \Delta v_i$ )	Total value ( $a_i$ )	Capitalists' savings ratio ( $\alpha_i$ )
1	I	4,000	1,000	1,000	500	400	100	6,000	0.5
1	II	1,500	750	750	600	100	50	3,000	0.2
2	I	4,400	1,100	1,100	550	440	110	6,600	0.5
2	II	1,600	800	800	560	160	80	3,200	0.3
3	I	4,840	1,210	1,210	605	484	121	7,260	0.5
3	II	1,760	880	880	616	176	88	3,520	0.3
4	I	5,324	1,331	1,331	665	532	133	7,986	0.5
4	II	1,936	968	968	678	193	97	3,872	0.3
5	I	5,856	1,464	1,464	732	586	146	8,784	0.5
5	II	2,129	1,065	1,065	745	213	107	4,259	0.3
6	I	6,442	1,610	1,610	805	644	161	9,662	0.5
6	II	2,342	1,172	1,172	821	234	117	4,686	0.3

Note: All magnitudes have, where relevant, been rounded off to whole numbers.

This would lead to a surplus in the output of department I of 53. In order to achieve co-ordination Marx makes  $\alpha_2$  adjust, increasing it to 0.3. Now we have:

$$c_1 + \Delta c_1 + c_2 + \Delta c_2 = 4,000 + 440 + 1,600 + 160 = 6,600$$

and equation [11.14] is again satisfied. The system then settles down to the co-ordinated growth path depicted in Table 11.1,  $\alpha_1 = 0.5$  and  $\alpha_2 = 0.3$  in all subsequent years.

This growth path has two properties which are especially interesting. First, the economy is always co-ordinated, as may be seen by an examination of the situation in years 3, 4, 5 and so on. Second, department I expands at a rate of 10 per cent in every year; department II, on the other hand, does so only from year 2 to year 3 and thereafter, while from year 1 to year 2 it expands at a rate of 6.67 per cent per annum. Thus while there is always co-ordinated growth there is unbalanced growth in the first year, when department I grows faster than department II.

Marx originally began his section on the 'schematic presentation of accumulation' with the assumption that 'both I and II accumulate one half of their surplus value' (*Capital* II:511), and he does not provide any rationale for setting them at this level rather than another. Nevertheless, having taken the step of making these savings ratios exogenous, it is most reasonable also to assume that they are equal. After all there is no obvious reason why the behaviour of capitalists in the two departments should be asymmetrical. In his numerical example, however, an assumption of equality is inconsistent with co-ordinated growth. Consequently, in order to produce this form of growth Marx changes  $\alpha_2$ , in effect making department II adjust to the requirements of department I. He therefore departs from his initial assumption about savings ratios, but there is no economic logic in his manner of doing so. No reason is given as to why capitalists in department II should behave as they do and thus allow the growth path to be dominated by department I. Morishima (1973:125) argues that this property of the system 'was invented by Marx as a *Deus ex machina*'. However, this artificial theoretical solution to the problem merely reflects what Marx saw as a problem of capitalist accumulation in reality where no such *Deus ex machina* exists.\* He did not expect co-ordinated growth to occur and his arbitrary treatment of  $\alpha_2$  illustrates the extent of this belief. We return to this matter in the next section.

## 11.4 Conclusion

Despite the evident simplicity of Marx's reproduction models, they have generally been admired by theorists from many other schools of economics. The reason for this lies not in their degree of technical sophis-

\* Marx's second main numerical example (*Capital* II:518) is based on the same form of saving-investment function as that used in the first example outlined above.

tication, which is clearly low by modern standards. It stems, rather, from the clarity with which the models represent the problem of fully co-ordinating production in a capitalist system. They starkly raise the problem of how in the absence of central planning any disproportion in production is kept within bounds, if indeed it is so bounded. They also raise the related question of the effect of any disproportionalities in production upon circulation, profitability and employment.

Marx's reproduction models are nevertheless open to legitimate criticism on three main grounds. First, as we noted in section 11.2, these models do not relate to a fully competitive capitalist system, in which capital mobility and credit flows operate to equalise profit rates and bring about prices of production which deviate from labour values. The conditions required for co-ordinated production in this more relevant case were never explicitly considered by Marx. Nor, since price and profit categories are completely absent from Marx's specification, are his models suitable for analytically connecting the co-ordination of production with co-ordination in circulation. What Marx does say about the latter is not as squarely based upon the former as it could have been, despite the subtitle of volume II of *Capital* (see section 4.9 above).

Second, there is the problem noted at the end of the last section. Marx's treatment of savings behaviour was artificial in the extreme. This is especially important because it is precisely through the savings mechanism that he brings about co-ordination. Naturally, questions arise as to whether a capitalist system can achieve co-ordinated production when there is symmetrical capitalist savings behaviour, and what the conditions required for this are. The fact that Marx did not explicitly consider these questions may have led him to draw unwarranted conclusions as to the difficulties involved in achieving fully co-ordinated production in capitalism. Capitalism may be less crisis-prone, from this source, than he imagined. Furthermore, once a credit system is explicitly treated, a department's accumulation is not restricted by the savings behaviour of capitalists in that department. This may operate to alleviate some of the difficulties which a capitalist system might otherwise experience in achieving co-ordination.

This conclusion is reinforced by a third point. Marx nowhere seems to recognise the significance of excess capacity and inventories as mechanisms aiding the achievement of integration in production. Consequently, in his analysis even a minor disproportion between departments seems to throw the system out of balance. In reality, however, the existence of spare capacity and stocks provides some flexibility, and make co-ordination easier to achieve than Marx implies.

One final puzzle remains, Marx's analysis of expanded reproduction deals with economic growth, and he might have been expected to shed some light on the determinants of the rate at which (in the absence of economic crises) output can grow. In fact he largely ignores this issue, concentrating almost entirely on the question of inter-departmental co-ordination. His numerical examples cannot have been intended to be taken seriously as

descriptions of historical economic growth: no Western European (or North American) economy has ever sustained growth at 10 per cent per annum. Why not? Ricardo would have had a ready answer. For him the rate of economic growth depends upon the distribution of income between the social classes, and on their savings propensities. Diminishing returns in agriculture bring about changes in this distribution which reduces the rate of growth associated with prevailing patterns of savings behaviour. Eventually, he argued, as the rate of profit fell to zero a 'stationary state' would ensue (see section 5.4.2).

A similar conceptual framework is transparent in Marx's examples, which demonstrate the more specific conclusion that the rate of growth is given by the product of the rate of profit and the capitalists' savings propensity. In Table 11.1, for example, the rate of profit in department I is  $(s/c + v = 1,000/5,000 = 0.2)$ ; the capitalists' savings propensity ( $\alpha_1$ ) is 0.5; and the rate of growth of output is  $(0.2)(0.5) = 0.1$ , or 10 per cent per annum. Marx devoted a great deal of energy to the analysis of the rate of profit. However, he said almost nothing about the determinants of capitalists' savings propensities, and wrote very little on the rate of economic growth. His reticence on these questions is a mystery.

The following chapters take up the two main conclusions drawn from the reproduction models by Marx himself: that co-ordinated production is possible in capitalism, but unlikely. Chapter 12 analyses those contradictions which Marx considered to be independent of co-ordination problems, and which he discusses on the assumption that no disproportionalities in production occur.\* In Chapter 13 we deal with Marx's analysis of how capitalist systems react when the conditions required by co-ordination in production and, more generally, in the connected processes of production and circulation, are not satisfied.

### Reading guide

The reproduction schema are presented in their most developed form in *Capital II*:Chs XX–XXI. Preliminary forms are also to be found in Marx's letter to Engels of 6 July 1863 (SC:142–5). In developing these models Marx was heavily influenced by the Physiocrat, François Quesnay, whose *Tableau Économique* was published in 1758. Marx said of the *Tableau* that it was 'incontestably the most brilliant . . . [conception] for which political economy had up to then been responsible' (TSV I:344). Quesnay's work is discussed by Kuczynski and Meek (1972) and Meek (1962); Ganguli (1972) discusses Marx's debt to Quesnay.

There have been many attempts to reformulate Marx's reproduction

\* Indeed, he goes beyond this by assuming that the economies analysed are on growth paths each moment of which is an equilibrium as defined in section 4.3. Co-ordinated production is a necessary condition for such equilibria to occur but it is not by itself a sufficient condition. The relations of circulation, including monetary relations, also have to be in balance and compatible with those in production.

models so as to overcome the first two limitations indicated in section 11.4. Harris (1972, 1978), Morishima (1973:Pt. IV) and Roemer (1981) are most enlightening. The third point mentioned in criticism of Marx is a more complex matter, on which Leijonhufvud (1981) is a good place to begin.

Those interested in seeing how modern economists handle the issues Marx tackled in the reproduction models will find Dorfman, Samuelson and Solow (1958), Leontief (1968) and Pasinetti (1977) useful. Marx's reproduction models also inspired early Soviet planning techniques and through these the more sophisticated input-output analysis of Leontief: see Nove (1972) and Nove and Nuti (1972). The relationship between modern and classical growth theory is explored by Kregel (1971).

# Capital accumulation and technical change

## 12.1 Introduction

Capitalist reproduction is a much more complicated issue than the reproduction models suggest. Even if attention is confined to the purely economic aspects, the process involves more than quantitative changes. The acquisitive drive inherent in the system leads to the accumulation of larger capitals, so that any reproduction takes place on an extended scale. But this accumulation also incorporates new technical developments, giving a qualitative dimension to economic growth.

Section 12.2 deals with Marx's general analysis of technical change in the 'modern industry' phase of capitalist development (above, section 4.9). He assumes that the organic composition of the system as a whole will rise in the course of capitalist development. This reflects a tendency for technical change to be biased toward labour-saving innovations, which Marx believes to be inherent in capitalism. The accumulation path of the economy he analyses is thus one in which department I produces an increasing proportion of total output.

For Marx, labour-saving technical change ensures the reproduction of both a positive economic surplus and a growing proletariat, so that the surplus accrues as surplus value and the basis of capitalist exploitation is sustained. Nevertheless, this reproduction process also involves three important phenomena which characterise capitalist development. First, it generates a rising *reserve army of unemployed*, which we discuss in section 12.3. Second, this reserve army acts as a force maintaining a constant level of real wages even when labour productivity is rapidly increasing. Section 12.5 deals with this and related topics involved in Marx's treatment of 'supply and demand'. Third, although technical change thus acts to raise the rate of exploitation and thereby the share of surplus value in net output, it also brings about a fall in the rate of profit on capital. Marx argues that technical change increases the organic composition of capital more than it raises the rate of surplus value, so that intensified exploitation fails fully to compensate for rising capital intensity, and the result is a fall in the rate of

profit. We analyse this claim in section 12.4. Our conclusions are stated in section 12.6.

## 12.2 Marx's treatment of technical change

In his analysis of technical change Marx adopts various procedures which dramatically simplify his task. As in the reproduction models, he abstracts from the division of surplus value into interest, rent, mercantile profit and industrial profit; all surplus value is assumed to take the latter form. In addition, for most of his analysis Marx aggregates capitalist industry into a single sector and ignores the distinction between the two departments which he made in the reproduction models. Once again labour values are used as weights of aggregation. Furthermore, although the three laws of motion are interconnected, Marx deals with them separately rather than simultaneously. In particular, while it is the rising rate of unemployment which accounts for stationary real wages, in the analysis of unemployment Marx implicitly assumes that the level of wages is predetermined. This is perhaps the most unsatisfactory aspect of Marx's dynamic methodology.

Marx considers that technical change in capitalism is predominantly labour-saving, and that this bias is reflected in a rising organic composition of capital. His rationale for this, although not altogether clear, seems to be as follows. Labour-saving technical change is identified with an increase in the productivity of labour, where 'the degree of productivity of labour, in a given society, is expressed in the relative extent of the means of production that one labourer, during a given time, with the same tension . . . turns into products' (*Capital* I:622). This ratio is in turn defined as the *technical composition of capital*, which Marx states elsewhere to be 'the relation between the mass of the means of production employed, on the one hand, and the mass of labour necessary for their employment on the other' (*ibid.*:612). He argues that these changes in the technical composition of capital are reflected in the *value composition of capital*, which is 'the proportion in which [total capital] is divided into constant capital or value of the means of production, and variable capital or the value of labour power'. Marx argues that 'between the two there is a strict correlation. To express this, I call the value composition of capital, in so far as it is determined by its technical composition and mirrors the changes in the latter, the *organic composition of capital*' (*ibid.*).

This is a very confused analysis, to which at least three objections may be raised. First, the 'mass of the means of production' is not a well-defined notion, because the method by which heterogeneous productive forces are aggregated is not specified. If they are aggregated by labour values, then the technical composition of capital is identical with the value composition and also with the organic composition. In such a case there is obviously no point in distinguishing one composition of capital from another. If they are aggregated in some other way, then the relation between the different compositions of capital would be sensitive to the exact method



employed, and Marx's assertions about their relationships would not necessarily hold.

Second, there is no *a priori* reason why the value composition should 'mirror' the technical composition, even if the latter concept is completely unambiguous. Suppose that there is only one produced means of production, a homogeneous machine, and that the length of the working day is constant. The technical composition of capital may then be defined, reasonably enough, as the number of machines per worker. In the nineteenth century English cotton-weaving industry, for instance, the technical composition demonstrably increased as more and more looms came to be tended by each weaver. (This ignores the other elements of constant capital employed, such as mill buildings and raw yarn.) The value composition of capital in cotton weaving was the value of all the looms used, divided by the value of weavers' labour power:

$$\begin{aligned}
 \text{Value composition of capital} &= \frac{\text{Value of looms}}{\text{Value of labour power}} \\
 &= \frac{\text{Number of looms} \times \text{Value of one loom}}{\text{Number of weavers} \times \text{Value of one weaver's labour power}} \\
 &= \frac{\text{Number of looms}}{\text{Number of weavers}} \times \frac{\text{Value of one loom}}{\text{Value of one weaver's labour power}}
 \end{aligned}$$

The first term in this expression is the technical composition and the second term is a ratio of unit labour values. If real wages are unaltered, it will depend upon the respective growth rates of labour productivity in the loom-making and consumer-goods industries. If the quantity of socially necessary labour embodied in a loom falls faster than that required to produce (say) a loaf of bread, this value ratio will fall. Evidently it is possible (though by no means necessary) for the value composition to fall while the technical composition increases. This would confound Marx's expectations. It would also render meaningless his definition of the *organic* composition of capital (*Capital* I:612), which requires the technical and value compositions to move in the same direction. Generally speaking, however, when Marx referred to the 'organic' composition of capital he meant the value composition. We shall follow him in this.

A third area of substantive confusion concerns the distinction between capital stocks and capital flows, which must be made whenever fixed capital is employed. Setting aside the more abstruse issues raised in Chapter 9, the difficulties can be illustrated by reference to Table 6.2 (p. 114). In industry 1, for example, two definitions of the organic composition are possible: the ratio of the stock of constant capital employed to variable capital ( $80/70 = 1.14$ ), or the ratio of the flow of constant capital used up to variable capital ( $50/70 = 0.71$ ). There is a further complication, since it is assumed in Table 6.2 that, in the case of variable capital, stocks

are identical with flows, which will not generally be the case. It is immaterial whether the organic composition is defined on a stock or a flow basis, so long as consistency is maintained, Marx made very heavy weather of differences in the 'turnover times' of the two components of capital (*Capital* II:Pt. II), and in discussing the organic composition he tended to move without warning between stocks and flows. This has been a frequent and legitimate, if rather minor, cause for complaint.

### 12.3 The reserve army of the unemployed

If technical progress is labour-saving, and the organic composition of capital actually does increase, the employment of labour power will grow less rapidly than constant capital. Marx maintained that this will raise the rate of unemployment, as dead labour progressively replaces living labour and reduces the number of workers needed to produce a unit of output (*Capital* I:Ch. XXV). However, this argument is deficient on two grounds.

First, assuming a given wage, which Marx does implicitly by constructing his argument in labour value categories, labour-saving technical change involves counteracting effects on the demand for labour power. It is true that a unit of output requires less direct labour input and thus, for any level of output, the demand for labour power is less. But it is also true that the rate of exploitation rises, providing the capitalists with an enlarged fund of surplus value from which faster accumulation can be financed. This acts to raise the demand for labour power. Which force is the stronger cannot be determined *a priori*, so that the net effect on the demand for labour power is indeterminate. Marx recognised the existence of this counteracting effect, but did not identify the resulting indeterminacy.

Second, as it stands so far Marx's argument is incomplete, for nothing at all has been said about the growth in the supply of labour power. Unemployment will increase only if the supply of labour power grows more rapidly than the demand. If the reverse is true, unemployment will decline over time, and may eventually vanish. In fact Marx made no particular assumption about the rate of growth of the supply of labour power, except to imply that it was normally positive, as he assumed was the rate of growth in its demand (*Capital* I:629).

All this can be shown in Marx's own value categories; for convenience we now assume there is to be only one department of production. The rate of growth of variable capital, which is equal to the rate of growth in the demand for labour power, is:

$$g_v = \Delta v/v \quad [12.1]$$

Let  $\beta$  stand for the proportion of total investment allocated to variable capital (so that  $1 - \beta$  is the proportion devoted to constant capital). Also let  $\alpha$  represent the capitalists' savings ratio out of surplus value, which in equilibrium, with savings equal to investment, will equal their investment ratio.

Total investment will then be:

$$I = \alpha s \quad [12.2]$$

Substituting [12.2] into [12.1],  $g_v$  can be expressed as:

$$g_v = \frac{\beta \alpha s}{v} = \beta \alpha e \quad [12.3]$$

where  $e$  = the rate of exploitation.\*

Marx's argument is that  $\beta$  declines, and that it does so at an ever faster rate owing to the increasing centralisation of capital. But this will not bring about a decline in  $g_v$  unless the growth in  $\alpha e$  fails to compensate. If  $\alpha$  is assumed constant, then  $g_v$  depends critically on the rate of growth of  $e$ . On Marx's assumptions the rate of exploitation certainly will grow since, with a constant real wage and an unchanged working day, increased labour productivity entails a reduction in necessary labour time (see section 7.2). The issue, however, is the speed at which it increases. If the (positive) rate of growth of  $e$  is equal to the (negative) rate of growth of  $\beta$ , for example, we have a constant  $g_v$ . In order for  $g_v$  to decline, the absolute rate of growth of  $e$  must be less than the absolute rate of growth of  $\beta$ .

Marx argues later, as we shall see in section 12.4, that the rate of growth of  $e$  will progressively decline, so that, if the rate of decrease of  $\beta$  accelerates, there can come a point after which  $g_v$  falls. This point may, however, be a long way off; and in any case this particular argument is part of Marx's theory of the falling rate of profit which, as we shall also see, is invalid. Even if the growth rate of  $e$  did decline, though, an increase in  $\alpha$  – which is not unlikely if centralisation occurs (*Capital* III:245, 251) – could offset this effect. And even if  $g_v$  did decline, the growth in supply would still have to exceed  $g_v$  in order to produce increasing unemployment.

Marx's argument, therefore, is at its strongest when there is very rapid growth in the supply of labour power, and his perspective may well have been unduly influenced by the experience of early capitalist development. He correctly realised that the crucial supply variable was the rate of growth in the supply of labour power to the *capitalist* sector of the economy, and that the very development of capitalism rapidly increases this supply. The efficiency of the capitalist sector leads to its expansion at the expense of the pre-capitalist sector. Since labour productivity is higher in the capitalist sector, more workers are released through the decline in the pre-capitalist sector than can be absorbed in the expansion of the capitalist sector

\* The validity of equation [12.3] can be checked by reconsidering the two-department model of the previous chapter. Consider Table 11.1 on p. 189. After year 2, variable capital in both departments grows at the same steady rate of 10 per cent per annum. In department I,  $\alpha = 0.5$ ,  $\beta = 0.2$  (so that  $[1 - \beta] = 0.8$ ), and  $e = 1$ ;  $g_v = (0.5)(0.2)(1) = 0.1$ . Similarly, in department II,  $\alpha = 0.3$ ,  $\beta = 0.33$  and  $e = 1$ ; again  $g_v = (0.3)(0.33)(1) = 0.1$ . In this example the organic composition in each department is unchanging, so that constant capital grows at the same rate as variable capital. This reflects Marx's abstraction from technical change in his analysis of reproduction.

(see, for example, *Capital* I:640ff.). This is enhanced by the fact that mechanisation increases the possibilities of employing female and child labour (*ibid.*:394ff.). Nevertheless, despite Marx's insight into the impact of capitalist development, this argument loses its force with the progressive increase in the size of the capitalist sector relatively to that of the pre-capitalist sector. The generation of surplus labour power must become a declining force with the increasing dominance of capitalist over pre-capitalist production, and will eventually lose its significance altogether.

As a further support to his argument on the reserve army of unemployed, Marx anticipates in several places the modern idea that the rate and form of technical change is conditioned by the relative scarcities of appropriate inputs. Thus if there is at any period excess demand for labour, so that wages increase and reduce the rate of profit, the application of labour-saving innovations will be accelerated, thus reducing the demand for labour power:

Between 1849 and 1859, a rise in wages practically insignificant, though accompanied by falling prices of corn, took place in the English agricultural districts. . . . What did the farmers do now? Did they wait until, in consequence . . . the agricultural labourers had so increased and multiplied that their wages must fall again, as prescribed by the dogmatic economic brain [of Malthus]? They introduced more machinery, and in a moment the labourers were redundant again in a proportion satisfactory even to the farmers. There was now 'more capital' laid out in agriculture than before, and in a more productive form. With this the demand for labour fell, not only relatively, but absolutely (*Capital* I:638; see also *Capital* I:436; II:505).

This mechanism will furnish a reserve army in Marx's model, as he postulates that wages begin to increase long before the reserve army is fully absorbed. It will increase the relative size of the reserve army, however, only if this mechanism continually leads to an *overcompensation*, as Marx seems to imply.

This argument is clearly not historically relative but, despite its evident insight into the forces governing the pattern of technical change, it is weak because the interests of capital will lie in adopting labour-using (capital-saving) innovations when there is a relative shortage of *capital*. And indeed Marx explicitly recognises that there are many economic forces operating to make capital-saving innovations relatively more profitable than labour-saving innovations. One such force is the reserve army of the unemployed itself, which operates to keep wage rates from rising relative to the rate of profit (*Capital* I:390; III:114, 236–7, Chs IV, V and XIV). Thus Marx provides no proof that technical progress will have a labour-saving bias sufficiently strong to produce an increasing reserve army.

We may conclude that simply postulating labour-saving technical change which raises the organic composition of capital does not, by itself, imply anything definite about unemployment trends. Marx wrote as if it did, and he was wrong to do so. The effect of this error, however, is not to make his argument devoid of substance. As it stands it is insufficiently specified rather than definitely incorrect.

## 12.4 The falling rate of profit

Marx argues that the same mechanism which produces a decaying employment position over time also produces a declining profit rate. His argument is conducted in terms of his formulae for the rate of profit (see section 6.3.1 above):

$$r = \frac{s}{c + v} = \frac{s/v}{c/v + \frac{v}{v}} = \frac{e}{k + 1}$$

The rate of profit is directly related to the rate of exploitation, and inversely related to the organic composition of capital. Marx believes that the organic composition increases (and at an increasing rate) with capitalist development. Given only this piece of information, however, we can infer nothing about the rate of profit. Although the organic composition increases this will, given a fixed real wage, itself produce an increasing rate of exploitation, since net output per worker is growing (see section 7.2). Thus the overall effect will depend on the respective magnitudes of change in the organic composition and the rate of exploitation.

Marx argues, however, that although the rate of exploitation increases with the organic composition, it will after some point increase less rapidly, so that there must come a point after which the rate of profit will begin to fall:

the compensation of a decrease in the number of labourers employed, or the amount of variable capital advanced, by a rise in the rate of surplus-value, or by the lengthening of the working-day, has impassable limits. Whatever the value of the labour power may be . . . the total value that a labourer can produce, day in, day out, is always less than the value in which 24 hours of labour are embodied. . . . The absolute limit of the average working day – this being by nature always less than 24 hours – sets an absolute limit to the compensation of a reduction of variable capital by a higher rate of surplus value (*Capital* I:305).

He argues further that as capitalism develops and the rate of exploitation rises, it becomes increasingly difficult to reduce the necessary labour time by further increases in productivity. Thus the rate of surplus value increases at a decreasing rate:

The larger the surplus value of capital . . . or, the smaller the fractional part of the working day . . . which expresses necessary labour, the smaller is the increase in surplus value which capital obtains from the increase of productive force. Its surplus value rises, but in an ever smaller relation to the development of the productive force. . . . The smaller already the fractional part falling to *necessary labour*, the greater the *surplus labour*, the less can any increase in productive force perceptibly diminish necessary labour (*Grundrisse*:340).

Suppose that a 12-hour day is divided equally between necessary and surplus labour time, giving a rate of exploitation equal to 100 per cent ( $e = 6/6 = 1$ ). To double  $e$  requires a 33.3 per cent decline in necessary labour, from 6 hours to 4 ( $e = 8/4 = 2$ ). A further doubling in  $e$  calls for a 40 per

cent reduction in necessary labour, from 4 hours to 2.4 ( $e = 9.6/2.4 = 4$ ). The next doubling requires a 44.5 per cent reduction, from 2.4 hours to 1.33 ( $e = 10.67/1.33 = 8$ ); and so on. Unless labour productivity continuously accelerates, the rate of growth of  $e$  must decline.

At this point it might be asked why the capitalist class carries on the accumulation process beyond the point where the rate of profit begins to fall. Why should capitalists progressively increase the organic composition in the face of a diminishing rate of profit upon their investment? Marx himself poses this question, and answers it as follows:

No capitalist ever voluntarily introduces a new method of production, no matter how much more productive it may be, and how much it may increase the rate of surplus value, so long as it reduces the rate of profit. Yet every such new method of production cheapens the commodities. Hence, the capitalist sells them originally above their prices of production, or, perhaps, above their value. He pockets the difference between their costs of production and the market prices of the same commodities produced at higher costs of production. He can do this, because the average labour time required socially for the production of these latter commodities is higher than the labour-time required for the new methods of production. His method of production stands above the social average. But competition makes it general and subject to the general law. There follows a fall in the rate of profit . . . which is, therefore, wholly independent of the will of the capitalist (*Capital* III:264–5).

Marx's case, in a nutshell, is this. Pioneering capitalists enjoy temporary super-profits from their technical innovations, since they are able to reduce their costs of production but continue to sell their commodities at the original price of production. Attracted by the prospect of higher profits, other capitalists hasten to adopt the new techniques, but in so doing they drive down the market price of the commodity to its new, lower price of production. When all producers are employing the new technology they will each obtain the same, lower, rate of profit. For each capitalist taken individually, the innovation was profitable; for the capitalist class as a whole, it turns out to be unprofitable. So long as competition prevails, rational self-seeking individual behaviour gives rise to collective loss.

Marx does deal with five main 'counteracting influences' to the law of the falling rate of profit, which he advanced to explain why the rate of profit might not decline as rapidly as his original argument suggested (*Capital* III:232). These are:

1. Increasing the intensity of exploitation (*Capital* III:232). Here Marx is concerned with those influences which increase the rate of surplus value independently of any increase in the organic composition of capital. This involves in particular the lengthening of the working day, and the intensification of work itself through faster machine operation and more intense supervision. (He has, of course, already taken into account within his exposition of the law itself the increase in the rate of exploitation that results from an increased organic composition.)

2. Depression of wages below the value of labour power (*ibid.*:235).

This increases the rate of exploitation, though it cannot be a permanent force unless real wages continually decline.

3. Cheapening of the elements of constant capital (*ibid.*:236). This refers to capital-saving innovations, which reduce the organic composition of capital.

4. Relative overpopulation (*ibid.*): 'The cheapness and abundance of disposable or unemployed wage-labourers', maintained by the growth of the industrial reserve army, encourages the expansion of industries with a low organic composition of capital, especially in the luxury trades, and hence slows down the rate of growth of the average organic composition.

5. Foreign trade (*ibid.*:237), which can cheapen the elements of both constant and variable capital, thus reducing the organic composition and increasing the rate of surplus value. The repeal of the Corn Laws in 1846, for example, permitted a substantial reduction in the value of labour power, and hence in necessary labour time.

Marx asserted, however, that these forces do not 'do away with the law' (*Capital* III:239), but only act as checks which 'hamper, retard and partly paralyse' the decline, reducing its character to that of a 'tendency' (*ibid.*:239).

Thus the organic composition may rise, or it may not; the rate of exploitation will increase, perhaps more rapidly than the organic composition, perhaps not. The rate of profit may fall, or stay roughly constant, or it may rise. There are two common reactions to this conclusion. It is often seen as an admission of defeat, as Marx's confession that one of his most important economic discoveries has no solid foundation, and that the secular trend in the rate of profit is fundamentally indeterminate. Or it may be interpreted as an incisive product of Marx's uniquely dialectical vision, according to which everything produces its own negation, and there are no unilinear laws of economic life. We incline towards an intermediate position, to the effect that Marx's analysis is of taxonomic value only: it provides a useful classification of the forces determining the rate of profit, without being able to specify the direction or speed of its change. Whether the rate of profit declines, or not, is a contingent question, dependent upon the relative strengths of the forces discussed.

However, Marx was definitely wrong in one crucial respect. Holding real wages constant, he was simply incorrect in believing that on his assumptions it was possible for the rate of profit to fall as a result of technical change. If capitalists act rationally (as, according to Marx, they do); if there are no scarce natural resources (thus excluding Ricardian influences, as they are excluded from Marx's own argument); if the economy is closed (to which Marx should not object, since for him foreign trade functions only as a counteracting influence); and if the wage is fixed (as Marx assumes it is, owing to the reserve army of unemployed), then there is no possibility that Marx could be correct. The only technical changes which will be adopted will be those associated with a rising or constant rate of profit.

The proof of this proposition is complex. Here we sketch it for a very simple capitalist system involving only one commodity other than

labour power, in effect the Ricardian corn model discussed in section 5.4.2 but interpreted in the 'price of production' framework of section 10.3. This simple capitalist system can be represented by equation [12.4]:

$$c(1 + r) + wl = 1 \quad [12.4]$$

The right-hand side represents the output of corn. Since physical units of measurement are arbitrary, we have set the total output equal to unity (alternatively, if constant returns to scale are assumed, equation [12.4] can be taken to represent the process of production when operated at a unit level of activity). Constant capital is represented by the parameter  $c$  and is a quantity of corn. The input of labour power is represented by the parameter  $l$ . These two parameters are the technology; if technical change takes place there will be a change in their magnitudes. The type of technical change considered by Marx involves a reduction in  $l$  and a rise in  $c$ . The real wage rate,  $w$ , is measured in corn. The rate of profit,  $r$ , is a pure number, and is calculated with respect to constant capital only; for simplicity we have assumed that wages are paid at the end of the production period, so there is no variable capital and no profits are levied on the wage bill ( $wl$ ). Nothing of substance depends upon this assumption. The price of corn does not figure because corn is the *numéraire*. This means that the only 'price magnitude' in this simple model is the real wage,  $w$ .

Equation [12.4] can be rearranged as:

$$r = \frac{1 - wl}{c} - 1 \quad [12.5]$$

and represented diagrammatically as a 'wage-profit curve' in Fig. 12.1. This shows the highest rate of profit available to capitalists for any specified level of the real wage, given the conditions of production specified by the parameters  $c$  and  $l$ . The maximum rate of profit,  $R$  (see section 8.3) is found by putting  $w = 0$ ; the maximum wage is given by setting  $r = 0$ .

Now consider a technical change which, like those considered by Marx, involves a simultaneous fall in  $l$  and a rise in  $c$ . Such a change will have a corresponding wage-profit curve similar to that in Fig. 12.1 but with different intercepts. The new curve (B) will cut the old curve (A) at some point within the positive quadrant, as in Fig. 12.2a where the intersection occurs at  $w^{**}$ ; or it will be entirely inside the old curve as in Fig. 12.2b. On Marx's assumptions it cannot lie entirely outside the old curve.\*

Marx's argument is that such a technical change can, with the real wage held constant at say  $w^*$ ,

1. appear profitable to each capitalist (that is, give rise to super-profits) at the prices prevailing when the initial technology is in use;

\* For the wage-profit curve to shift outwards, both the maximum wage and the maximum rate of profit must rise. But Marx assumes that  $l$  falls and  $c$  increases, which entails a fall in the maximum rate of profit (since  $r_{\max} = R - \frac{1}{c} - 1$ ).



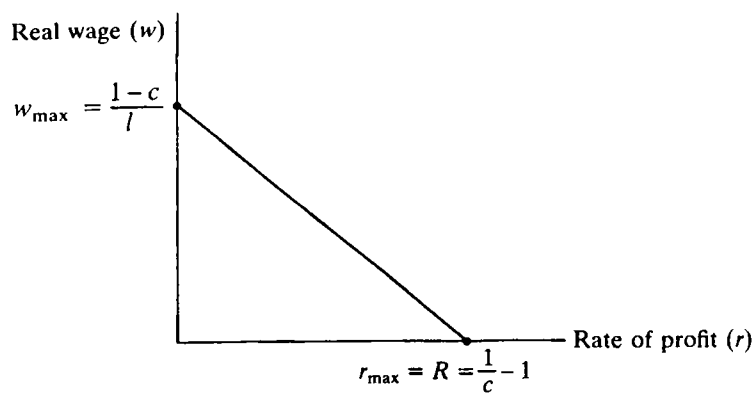


Fig. 12.1 The wage-profit curve corresponding to equation [12.5]

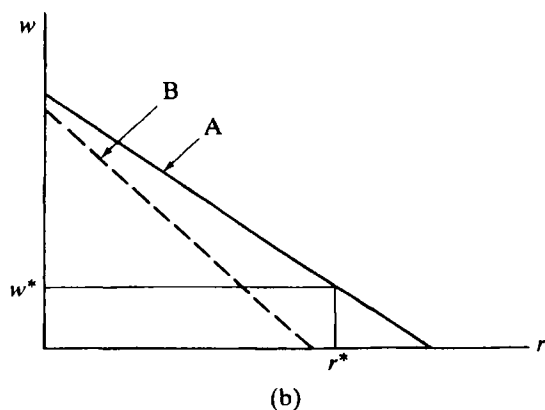
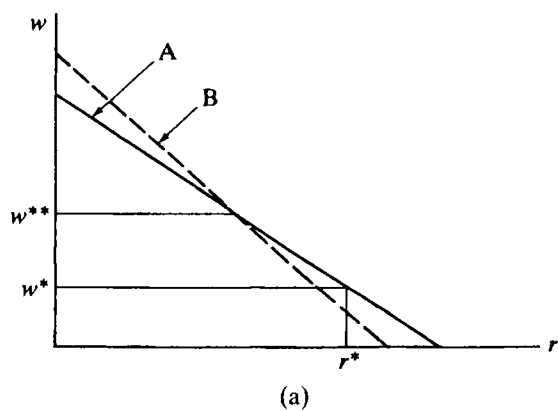


Fig. 12.2a, b The wage-profit curves of the old and new technology.

2. generate a lower  $r$  in a situation where *all* capitalists have adopted the new technology;
3. at the new prices, render the original technology less profitable to operate; and hence,
4. permanently lower the *equilibrium* rate of profit.

In the simple model we are considering, proposition 3 collapses into proposition 1, since the only price magnitude is the real wage, and this is held constant by assumption at  $w^*$ . Any technology which is most profitable at the 'old prices' will also be most profitable at the 'new prices', since the two sets of prices are identical. It can be immediately seen from Fig. 12.2a and 12.2b that only the second proposition can be valid. However, proposition 2 is made redundant by the fact that proposition 1 is false. Rational capitalists will never adopt a technology like B, in preference to A, in the case depicted in Fig. 12.2b; and will never do so at a wage less than  $w^{**}$  in the case represented in Fig. 12.2a. The rate of profit may decline as a result of technical change, but *only* if that change is associated with a rise in the real wage.

In this simple case, then, Marx is clearly wrong in his belief as to how labour-saving technical change will affect the rate of profit. This conclusion is also robust, and applies much more generally than to the very simple, one-commodity, circulating capital model under discussion here:

if all goods exchange at their prices of production, and the wage bundle is unchanged, for any new technology for the production of good  $i$  whose introduction, at the prevailing prices of production, yields super profits to an individual capitalist, the effect of a general introduction of this technology and of the associated changes in prices throughout the economy will be to raise the competitive rate of profit (Bowles 1981:184).

No matter how complicated the economy, on Marx's assumptions there is no possibility of a falling rate of profit occurring in the manner he suggested. The proof of this proposition is complex; it is provided in Roemer (1981).

## 12.5 Marx's treatment of 'supply and demand'

Independent of the weakness of Marx's analysis of unemployment which we considered in section 12.3, there are problems associated with the internal coherence of his theory of wages. The reserve army of unemployed is a pivotal mechanism allowing the domination of capital over labour. And one way in which it does this is by maintaining constant real wages (*Capital* I:Ch. XXV). There is a logical problem with this. Why, in the face of ever-increasing unemployment, is *any* level of wages – subsistence or otherwise – maintained? Marx's analysis assumes a competitive capitalist system and this involves competitive markets for labour power. In such circumstances an excess supply of any commodity may be expected to exert a downward pressure on its price. Thus Marx should have explained what operates to offset the effects of an excess supply of labour power or, put alternatively,

what operates to stop real wages falling continuously. He did not do this.

There is also a similar silence in Marx's treatment of interest and profit. As we saw in section 6.2.4, Marx generally assumes that the rate of interest upon money capital will be below the rate of profit and that the former is a result solely of competition, that is, of supply and demand. The problem is to explain how these two statements can be compatible with each other. A positive difference between the rate of profit and the rate of interest acts as a force increasing the demand for borrowed capital, so driving up the rate of interest. Again, then, Marx should have explained what counter-acting influences operated to preclude the equalisation of the equilibrium rate of profit and rate of interest.

These two problems are connected. Both reflect Marx's lack of concern rigorously to analyse supplies and demands. He took the view that these forces functioned only to establish those equilibrium magnitudes which were determined by more fundamental labour value relations. And if a category like the interest rate did not reflect a labour value relation, it was not, according to Marx, subject to law at all (*Capital* III:350–7). He did not reject all supply and demand theory in the sense of believing that it inherently involved either logical mistakes or empirical errors. But he believed that contemporary supply and demand analysis had no analytical substance because its concepts of supply and demand were not derived from the social relations of capitalist economies. Consequently, it lacked depth and tended to be ideological. However, while one can share Marx's general sentiment on this matter it is also possible to recognise that his own specific treatment of supply and demand was seriously inadequate.

## 12.6 Conclusion

There can be no disguising the fact that Marx's analysis of technical change is seriously defective. Even if innovations are predominantly labour-saving, they need not lead to an increase in the organic composition of capital. An increase in the organic composition will not necessarily reduce the demand for labour power, or even lead to a lower rate of growth in this demand. Furthermore, whatever happens to the demand for labour power, the occurrence of technological unemployment depends upon the conditions governing the supply of labour power, and as we have seen in section 12.5, the existence of such unemployment causes problems for Marx's theory of constant real wages.

The tendency for the rate of profit to decline fares no better. On Marx's own assumptions there can be no such fall. Of course, his assumptions can be modified by allowing real wages to rise as a result of technical change, and this certainly could bring about a decline in the rate of profit. However, such an increase in wages would be difficult to reconcile with Marx's analysis of the reserve army (see also section 7.2 on this question).

These criticisms have important implications for Marx's more general treatment of the economic contradictions of capitalism. They suggest

that rather more emphasis must be placed upon the difficulties of realising surplus value, and rather less attention should be paid to the problems of producing it. We consider these realisation problems in the following chapter.

### Reading guide

Marx's most systematic account of the course of technical change, the growth of the reserve army, and its effects on wages, can be found in *Capital* I:Pt. VIII, especially in Ch. XXV. Easily the best simple formal treatment of these issues is Heertje (1972). There is a valuable analysis of different notions of the organic composition of capital in Robinson (1978), while the classification of technical change is discussed by Okishio (1977) and Schefold (1979). Useful commentaries on Marx's theory of unemployment include Blaug (1960), Furth, Heertje and Van der Veen (1978), Maarek (1979: Ch. 12), Meek (1967:113–28, 1968), Morishima (1973:Ch. 11), Robinson (1941), Samuelson (1957) and Sweezy (1946:Ch. V, 1968). How far Marx was indebted to Ricardo for his theory of technological unemployment is problematic. Steedman (1982), for example, maintains that the debt is large. The relevant section in Ricardo's *Principles* is Chapter XXXI, which is discussed by Marx in *TSV* II:Ch. XVIII. Leontief (1982) indicates that there may be current empirical relevance in Marx's treatment of labour-saving technical change despite its logical indeterminacy.

The theory of the falling rate of profit is dealt with at length by Marx in *Capital* III:Ch. XIII–XIV. However, the structure of his argument is not perfectly clear from this and much light is provided by Meek (1967:128–42). The theory has always met with scepticism even among the sympathetic; see, for example, Sweezy (1946:Ch. VI) and Dobb (1940). The 'dialectical' interpretation of Marx's analysis is advocated by Lebowitz (1976). The main criticism outlined in the text originated with Okishio (1961, 1963) and Samuelson (1957, 1960). There is a short and fairly simple demonstration by Bowles (1981). The point is still disputed, most energetically by Shaikh (1978b, 1982). Roemer (1981:Chs 4–6) and Van Parijs (1980) provide a comprehensive treatment of the issues and a critical commentary upon recent attempts to salvage something from Marx's arguments.

We know of no rigorous empirical investigation of long-run trends in the organic composition of capital. The rather casual assertions of Mandel (1975) are effectively criticised by Rowthorn (1976).

The treatment of interest and its relation to the rate of profit can be found in *Capital* III:Pt V. Panico (1980) provides a secondary exposition. Marx's remarks on 'supply and demand' are scattered throughout his work. His general position, however, can be gleaned from *Capital* I:Ch. XIX and *Capital* III:Ch X. Schumpeter's (1954:600, 604) commentary upon both Ricardo's and Marx's treatment of supply and demand is also useful.

# Realisation crises and cyclical growth

## 13.1 Introduction

The previous chapter dealt with the contradictions of capitalism on the assumption that there were no departures from equilibrium. This meant that all the surplus value which was produced was also realised in money form through market exchange. Commodities sold at their labour values (or at prices of production involving a uniform rate of profit), and each capital was fully adjusted to the production requirements placed upon it, which in turn reflected market demands.

A proposition frequently used to justify an equilibrium methodology is *Say's Law* which, in its most famous formulation, states that 'supply creates its own demand'. This implies that there can be no 'general glut' of commodities. Departures from equilibrium can occur, in that the composition of supply may not accord with that of demand at prevailing prices. But there can be no deficiency in the value of aggregate demand relative to the value of aggregate supply. Consequently, equilibrium can re-emerge through changes in the proportions in which different commodities are produced. Those who adhere to *Say's Law* have generally thought that market systems can accomplish such changes quickly and efficiently.

As we have seen in Chapter 6, Marx did not accept *Say's Law*. He used an equilibrium methodology only because he believed that the contradictions of capitalism involve issues which are in principle independent of its validity. He did not regard capitalist economies as operating in equilibrium most of the time or, indeed, as even being close to such equilibria. Instead, he argued, such economies experience large cyclical fluctuations around equilibria, and these fluctuations involve general gluts or crises in which the exchange values of commodities fall below the levels required for their surplus value to be fully realised in money form.

In this chapter we assess Marx's criticism of *Say's Law* and his theory of cyclical growth. The four subsections of section 13.2 define *Say's Law* more precisely and indicate the central considerations in its evaluation; outline the ambiguities of Marx's critique; and pursue the valid themes which

emerge from his analysis. In section 13.3 crises are discussed in the context of his theory of cyclical growth. Section 13.4 considers whether Marx provided a theory of economic breakdown, and section 13.5 contains our conclusions.

## 13.2 Say's Law and economic crises

### 13.2.1 Say's Law

Generally speaking, the proponents and opponents of Say's Law have failed to specify precisely the concepts of demand and supply which they have used. Marx was no exception, and this has clouded the evaluation of his critique of Say's Law ever since, because the law is essentially a proposition about the nature of supplies and demands.

Symbolically, Say's Law can be written as:

$$\sum_i p_i S_i = \sum_i p_i D_i \quad [13.1]$$

where  $p_i$  = the price of good  $i$ ;

$D_i$  = the market demand for good  $i$ ;

$S_i$  = the market supply.

This equation holds for the demands and supplies considered in neoclassical theory. Here agents are divided into consumers and producers. Consumers formulate their choices, that is, their demands and supplies, subject only to a budget constraint. Producers' choices, which constitute their demands and supplies, are subject only to a technological constraint. Provided that consumers obey their budget constraints exactly, equation [13.1] will hold. The value of each agent's total demands will exactly equal the value of that agent's total supplies. Consequently, if all agents are taken together, the value of aggregate demand is equal to the value of aggregate supply.\*

Neoclassical notions of supply and demand are not the only possible such concepts. Keynesian economists argue that neoclassical theory does not correctly represent the form of demands and supplies that will be effective in a market economy. They argue that in addition to budget and technological constraints, agents can face *quantity constraints* on the amounts which they can transact in particular markets. Such quantity constraints

\* More formally, equation [13.1] will hold for neoclassical demands and supplies if they are defined, if agents obey their budget constraints and if agents are non-satiated. The value of producers' demands differs from the value of their supplies by an amount equal to profits. If consumers are non-satiated, so that they exhaust their budgets, the value of their demands will equal the value of the assets they supply, including labour services, plus the value of profits which they receive from firms (it being assumed that consumers own firms). Consequently, the value of their demands differs from the value of their supplies by an amount exactly equal to that of producers. However, the differences are of opposite sign so that, when agents are taken all together, the value of aggregate demand is equal to the value of aggregate supply. Equation [13.1], therefore, holds.

mean that their demands and supplies in other markets will differ from those specified by neoclassical theory. The consumption demands of an unemployed agent, for example, will differ from those of the same agent when employed. The effect of the quantity constraint upon the sale of labour is, rather obviously, to reduce effective demands in other markets.

This can result in a situation of general excess supplies. Consumers' demand for commodities can be constrained by their inability to sell all the labour they wish to supply, while producers do not employ more labour because of the restricted demand for commodities relative to the amounts that they are willing to supply. Such a situation does not mean that there will be a corresponding excess effective demand on any other market, as equation [13.1] implies in the case of neoclassical demands and supplies. Say's Law does not carry over to effective demands and supplies as formulated by Keynesian theorists. Instead equation [13.1] is weakened to

$$\sum_i p_i S_i \geq \sum_i p_i D_i \quad [13.2]$$

In the case where the inequality operates rather than the equality there is an 'effective demand failure'.

The validity of Say's Law thus hinges upon the concepts of demand and supply which are used. Any attack on the law will have to involve a formulation of demands and supplies which does not imply equation [13.1]. And any assertion that a general glut of commodities is possible must formulate demands and supplies in a way which generates the weak inequality represented in [13.2]. In the next three subsections we consider how far Marx's argument does so.

### 13.2.2 *Ambiguities in Marx's critique of Say's Law*

As we have already noted, Marx is imprecise as to the exact nature of the demands and supplies which are relevant. It is a legitimate inference from his methodology that he would not be satisfied with either the neoclassical or the Keynesian concepts referred to in section 13.2.1, since in both cases demands and supplies are attached to asocial and ahistorical economic agents, and Marx repeatedly criticised such abstractions. However, it is clear that he would have accepted the central point of Keynesian theory, namely, that quantity constraints can limit demands and supplies. In fact he explicitly stated this to be the case as early as 1847:

In all crises the following circular movement relates to the workers: The employer cannot employ the workers because he cannot sell his product. He cannot sell his product because he has no buyers. He has no buyers because the workers have nothing to offer in exchange but their labour, and precisely for that reason they cannot exchange their labour (*MECW* 6:424n5; see also *TSV* II:505–7)

Nevertheless, Marx is not totally consistent on this matter, for some of his statements lend themselves to a neoclassical interpretation. For example, he writes

At a given moment, the supply of all commodities can be greater than the demand for all commodities

and immediately adds,

since the demand for the *general commodity*, money, exchange-value, is greater than the demand for all particular commodities (TSV II:505).

These statements are perfectly in accord with Say's Law as defined by equation [13.1]. And, indeed, had Marx been consistent in his use of the concepts of demand and supply, he would not have needed to explain the first statement by the second. Once quantity constraints are accepted as relevant, there is no implication that an excess supply of non-monetary commodities must be balanced by an excess demand for money.

This ambiguity probably reflects a lack of clarity in Marx's own mind as to precisely what he was attacking when he denied the validity of Say's Law. He seemed to identify it not only with literary statements of equation [13.1], but also with the proposition that the value of aggregate demand can never fall short of that required fully to realise surplus value. This second proposition is not the same as the first. In an equilibrium, as Marx defines it, Say's Law in the sense of equation [13.1] does not hold because there is an excess supply of labour power without a corresponding magnitude of excess demand in other markets.\* But in such an equilibrium there are, by definition, no realisation problems; all commodities sell at their prices of production, which include the competitive rate of return on capital.

Finally, Marx makes many statements, largely in criticism of Ricardo, maintaining that support for Say's Law is only possible by assuming barter exchange, the absence of capitalist social relations and, indeed, the absence of commodity production itself (TSV II:528–9). As we will see in the following two sections, there are valid and important points contained in these charges. But these statements are less forceful than they otherwise would be because Marx's concepts contain both historical and logical referents. For example, when he refers to a barter economy he includes elements which are historically, but not logically, associated with barter (TSV II:508–9). He does not analyse the significance of barter compared to monetary exchange by explicitly constructing models of a market economy in which the *only* difference is the mechanism of exchange. Such a comparison is necessary if the exact significance of different modes of exchange is to be understood. In other words, Marx's attack upon Say's Law would have been more powerful if he had been more theoretical.

### 13.2.3 *The possibility of crises*

Despite these ambiguities, Marx does make two major contributions to undermining Say's Law, especially in the form that Ricardo stated it:

\* This assumes that the reserve army of the unemployed does represent an excess supply of labour power, which seems a reasonable inference from Marx's discussion of it. However, we have already seen in section 12.5 that Marx is not absolutely clear on the operation of supply and demand in the market for labour power.



Productions are always bought by productions, or by services; money is only the medium by which the exchange is effected (Ricardo 1821:291–2, cited in *TSV* II:501).

Against this, Marx emphasised first that money is not just a medium by which exchange is effected: it is also a means of payment (*Capital* I:135, 137; III:400, 459, 465, 515, 540). There are many credit instruments that form means of exchange but only money acts as a means of payment, that is, as a means by which the exchange is finalised. Consequently, Marx was right to emphasise the importance of commodity circulation, in which money is a necessary form through which production must pass (*Capital* III:516–17, 573). He was also correct to emphasise that the willingness to exchange money for commodities is variable (*Capital* I:131, 134, 142; III:527, 564). A change in established or expected payment patterns can generate a crisis in which commodities have to sell below their equilibrium exchange values (prices of production), if any sale is to be made. A ‘general glut’ in the sense of a positive excess supply in all ‘productions’ is perfectly possible.\*

Second, Marx points out that once a serious rupture has occurred in monetary exchange, forces come into play which have the effect of amplifying the deviations from equilibrium:

It must be added that definite, presupposed, price relations govern the process of reproduction, so that the latter is halted and thrown into confusion by a general drop in prices. This confusion and stagnation paralyses the function of money as a medium of payment, whose development is geared to the development of capital and is based on those presupposed price relations. The chain of payment obligations due at specific dates is broken in a hundred places. The confusion is augmented by the attendant collapse of the credit system, which develops simultaneously with capital, and leads to violent and acute crises, to sudden and forcible depreciations, to the actual stagnation and disruption of the process of reproduction, and thus to a real falling off in reproduction (*Capital* III:254; see also *TSV* II:522–3).

It follows that even if we grant as compatible with Say’s Law a situation in which there is an excess supply of all commodities counterbalanced by an excess demand for money, Marx’s argument alerts us to the likelihood that such a situation may be only momentary. Deviation-amplifying mechanisms will quickly come into operation, and will produce excess supplies that are not counterbalanced by any equivalent excess demand. In Keynesian terms, quantity constraints will become effective and multiply, so that even those spheres which did not initially overproduce are ‘now ... overproducing’ (*TSV* II:523).

These are real and important insights into the defects of Say’s Law

\* Strictly speaking, the first part of Ricardo’s statement could be defended on the ground that he assumed money to be a produced commodity. However, it would not be a strong defence because exchange involving non-produced goods would invalidate it and Ricardo was, of course, aware that there were many non-produced goods which enter exchange. Furthermore, Marx’s second point, which is considered below, would undermine it too.

and the nature of realisation crises. Nevertheless, Marx can be criticised for failing to specify the limits of such crises. He saw crises as the mechanism by which equilibrium is re-established, and did not accept that they might become longer-term phenomena in which the equilibrating forces were either very weak or were overwhelmed by forces working against the re-establishment of equilibrium. However, Marx did not explain why the deviation-amplifying forces are eventually dampened, so that crises are temporary rather than potentially permanent. We return to this point in section 13.3.

#### 13.2.4 *Capitalism and crises*

As we saw in section 6.3.2, Marx distinguished between those factors establishing the possibility of crises and those which actually bring them about. The possibility of crises appears with the use of money in the exchange of commodities. Only in commodity production does the notion of a 'general glut' make sense; only with the use of money can the purchase and sale of commodities become separated, and Marx regarded such a separation as a necessary basis for the generation of crises (*TSV* II:507–9, 512, 514). But they actually occur only in capitalism or, at least, their regular and repeated occurrence develops only in capitalism. There are three general reasons why this is so. First, capitalist commodity production is not production for use: accumulation of wealth in the abstract is the dominant motivation. This acquisitiveness distinguishes capitalism from pre-capitalist forms of commodity production, in which, although co-ordination occurs via exchange, the principal aim of the producers remains use value, and the realisation of commodity values in a monetary form is only a means to an end. In capitalism it is an end in itself. Problems in the realisation of value thereby gain added significance and are magnified in their disruptive effects.

Second, capitalist commodity production is dynamic. Its historically specific form of acquisitiveness generates continual economic change. Consequently, there is a turbulence in capitalism which disrupts established patterns of reproduction. Pre-capitalist forms of commodity production lack this revolutionary nature, and thereby avoid its enhanced potential for failure in the realisation phase.

Third, capitalist commodity production enlarges economic interdependence, increasing the division of labour and the specialisation of activity. Thus any disruption which does occur spreads far more than in pre-capitalist forms of commodity production, and both the extensiveness and intensity of any crises are increased.

It should be emphasised that Marx nowhere relates as explicitly as we have done the distinguishing characteristics of capitalism as they relate to the generation of crises. Nevertheless, he did see crises as events specific to capitalism, and his analyses in *Capital* and *Theories of Surplus Value* are clearly in accord with our remarks. A much more serious problem in Marx's treatment of crises is his excessively dramatic representation of co-ordination problems in capitalism. In particular he does not consider how the holding

of stocks, futures contracts, diversification of firms, insurance and credit arrangements can act as stabilising forces. Put alternatively, Marx's discussion of the interrelation of production and circulation suggests that he did not give enough attention to the question of the circumstances in which a problem of co-ordination would turn into a general crisis of realisation. We return to this point in the next section.

### 13.3 Marx's theory of cyclical growth

#### 13.3.1 *The nature of the problem*

Marx was extremely conscious of the periodic fluctuations in economic activity which take place as a capitalist economy grows. There are many descriptive outlines of this cycle in his work, together with detailed accounts of each phase (see, for example, *Capital* I:453). Furthermore, as we have already seen, Marx always considered crises in capitalism as a phase in the process of cyclical growth, rather than as long-term disruptions. Even if they are drastic and severe, crises are only temporary set-backs. They are only one part of an oscillating upward spiral in which both booms and slumps set up forces that bring about their own reversal, in a long-term context of continuing economic growth (*TSV* II:497–8; *Capital* III:255, 489).

The explanation of cyclical fluctuations is much more complex than is the explanation of crises. It must encompass the whole series of phenomena which are reflected in cyclical oscillations, and in particular must address itself to the following questions. Why does the period of rapid expansion in the boom come to an end? Why does the economy then not simply level out, rather than take an actual downturn in activity? What stops the process of contraction and determines the level of the floor? Why does the economy at some later point begin a recovery? What accounts for the specific length of the cycle, that is, its periodicity? What is the long-run tendency in the amplitude of the cycle, and are there any methods by which it may be controlled? Our outline of Marx's theory is organised on the basis of the answers which he gave (and failed to give) to these questions.

Given Marx's conception of capitalism, it will come as no surprise that the key variable explaining cyclical fluctuations is variations in profits or capitalists' expectations of profits (*TSV* II:494, 513; *Capital* II:424–5, 449; *Capital* III:Ch. XXV). Marx refers to many circumstances that might bring about such changes, thereby providing more specific content to those general attributes of capitalism which were outlined in section 13.2.4. They fall into two broad categories: randomly distributed 'shocks' from outside the economic system, and endogenous factors generated internally by the operation of the capitalist economy itself (*Capital* I:637). He was unusual (and in our view entirely correct) in placing particular emphasis upon the endogenous determinants of the trade cycle, of which two are especially prominent. First, the *production* of surplus value encounters difficulties (the nature of which has been outlined in Ch. 12) which tend to reduce the rate of profit, and may spark off a crisis. This mechanism is assessed in section 13.3.2.

Second, the rate of profit may fall as a *direct* result of a lack of purchasing power which renders impossible the full realisation of the surplus value that has been produced. This forms the subject of section 13.3.3. Section 13.3.4 outlines what Marx says about random shocks. In section 13.3.5 we discuss his analysis of the downturn, the lower turning-point, the secular tendency and possible control of cycles.

### 13.3.2 *The 'falling rate of profit' theory and cyclical crises*

Marx refers at many points in his work to the long-run mechanism of the declining rate of profit as a cause of crises (*Grundrisse*:749; *Capital* III:242, 250–9; *TSV* II:510). Since, however, the law of the declining rate of profit is for Marx a long-run phenomenon (*Capital* III:239), it has led some commentators to devalue its significance in his theory of crises. But this contradicts Marx's explicit references and fails to note that although the law is of a long-run nature, its manifestation is neither smooth nor regular. Marx sees accumulation as coming in bursts (*Capital* I:613, 632–3), and implies that the rate of profit will display a similarly irregular decline (*Capital* III:249, 263). This in itself, however, will not create crises: as we have seen, the argument for the declining rate of profit is developed on the assumption that there are no realisation difficulties. For Marx the decline in the rate of profit results from a decrease in the production of surplus value relatively to the value of the capital stock, and not from a failure to realise the surplus value which has been produced.

Marx overcomes this objection in the following manner. In linking the declining rate of profit theory to crises, which involve deficient aggregate demand, he strongly implies that capitalists react as if they experience realisation difficulties, and by so doing actually create them. On this argument a decline in the rate of profit due to factors inherent in production is mistaken by capitalists for a realisation problem. This leads to a cut-back in production, and creates a break between purchase and sale. It is true that Marx does not explicitly formulate the argument in these terms, but the context supports this interpretation (*Capital* III:Ch. XV), and it is certainly consistent with his repeated stress that capitalists are unaware of the laws of their own system (*ibid.*:Pt. VII). If one accepts the logic of Marx's theory of the falling rate of profit, this does provide a basis for explaining crises. But it does not specify a precise theory of the turning-point. It must therefore be extended to show at exactly what point disruption occurs; and Marx did not do this.

Now we have seen in section 12.4 that Marx's argument for the declining rate of profit is invalid. Does this imply that the utilisation of this theory to explain crises is illegitimate? Strictly, of course, it does. But we must note the more general and valid point that our interpretation of Marx's argument suggests. If the rate of profit should fall because of problems arising in production (as opposed to realisation), then a realisation problem may quickly appear because of the way in which capitalists react to it.

In the light of the inadequacy of Marx's theory of the falling rate

of profit, Sweezy (1946:Ch. 9) emphasises that Marx had another theory of crises, in which the rate of profit falls due to an increase in real wages. This may occur when accumulation is rapid enough sharply to reduce the size of the reserve army, allowing wages to rise above their normal level. There are frequent references in *Capital* I to such a possibility, and although Marx regards such an increase in real wages as only a temporary phenomenon, this might well be enough to spark off a crisis in the manner described above. Furthermore, this argument has a distinctly modern pertinence where a pronounced 'profit squeeze' is associated with a sharp upsurge in working-class militancy, as was the case in many capitalist countries in the late 1960s and early 1970s. Marx, however, discusses this possibility most clearly in the context of the 'absolute overproduction of capital' (*Capital* III:251–2). This is a situation in which the absolute volume of surplus value produced is declining, so that an increase in real wages could have a devastating effect on the rate of profit. But the 'absolute overproduction of capital' results from the operation of Marx's original (and faulty) theory of the declining rate of profit, so that his own argument is deeply suspect.

### 13.3.3 'Underconsumption' and cyclical crises

We now turn to the second factor which Marx introduces to explain the general course of the cycle, the deficient aggregate consumption of workers and capitalists:

Contradiction in the capitalist mode of production: the labourers as buyers of commodities are important for the market. But as sellers of their own commodity – labour-power – capitalist society tends to keep them down to the minimum price.

Further contradiction: the periods in which capitalist production exerts all its forces regularly turn out to be periods of overproduction, because production potentials can never be utilised to such an extent that more value may not only be produced but also realized; but the sale of commodities, the realization of commodity-capital and thus of surplus-value, is limited, not by the consumer requirements of society in general, but by the consumer requirements of a society in which the vast majority are always poor and must always remain poor (*Capital* II:320. For other similar statements see, for example, *Capital* III:244, 250, 256–8, 304–5, 484; *TSV* II:492, 518–25, 528, 535; *TSV* III:56, 122; *MECW* 4:424–5; 10:585–6).

Marx did not, however, accept the arguments of 'underconsumptionist' theorists like Malthus, Sismondi, Chalmers and Rodbertus. He saw crises as periodic, occurring at 'definite periods' (*TSV* III:56), whereas most underconsumptionist writers had developed theories of secular stagnation. Furthermore, Marx rejected the Malthusian view that rapid accumulation by capitalists would inevitably give rise to general gluts unless sufficient consumption was undertaken by the unproductive class of landlords and state functionaries. Marx's criticism was based on his reproduction models which clearly showed Malthus' error (see, for example, *TSV* III:Ch. XIX). He was rather more ambivalent towards the other main underconsumptionist argument, according to which deficiencies in effective demand resulted from

the restricted purchasing power of the working class. His hesitancy on this latter question is apparent in many of the passages cited above.

Exactly what Marx did believe to be the cause of deficient aggregate consumption in capitalist economies is thus far from clear. Robinson (1942:49) has probably come closest to Marx's own ideas in writing that the passages quoted above

combined with the equations of reproduction, suggest that Marx intended to work out a theory on some such lines as this: consumption by the workers is limited by their poverty, while consumption by the capitalists is limited by the greed for capital which causes them to accumulate wealth rather than enjoy luxury. The demand for consumption goods . . . is thus restricted. But if the output of the consumption-good industries is limited by the market, the demand for capital goods, . . . is in turn restricted, for the constant capital of the consumption-good industries will not expand fast enough to absorb the potential output of the capital-good industries. Thus the distribution of income between wages and surplus, is such as to set up a chronic tendency for a lack of balance between the two groups of industries.

If productivity increases while real wages are held constant, together with the intensity of labour and the length of the working day, the rate of exploitation will increase. Wages will decline continuously as a proportion of net output, and profits will grow in their stead. But while workers consume all their income, capitalists save a considerable proportion of theirs. Hence the average 'propensity to consume' will decline. This will create problems for the producers of capital goods:

continuous circulation takes place between constant capital and constant capital (even regardless of accelerated accumulation). It is at first independent of individual consumption because it never enters the latter. But this consumption definitely limits it nevertheless, since constant capital is never produced for its own sake but solely because more of it is needed in spheres of production whose products go into individual consumption (*Capital* III:304-5).

The reproduction models certainly imply that the relation of the capital-goods industries to the consumption-goods industries was considered by Marx as crucial to the instability of capitalism. Any disproportionality in the relations between these two sectors in which department I overproduced capital goods would occasion a decline in profits and spark off a crisis.

Again, however, Marx does not seem to deal with the turning-point mechanism. In other words he gives no reason why a burst of accumulation, when once under way, must necessarily slow down or come to an end so as to create a crisis. In the chapter on the reproduction models he strongly suggests that it is instability in the demand for means of production which is the root cause of such a crisis. Heavy demand for capital goods leads to a boom, but when it declines the maldistribution of income is such that consumption will not expand sufficiently rapidly to absorb the resources previously employed in the industries producing capital goods. Here Marx was indeed pointing to the significant variable, as both modern theory and empirical evidence show that it is the volatility of investment expenditures

that is the key to cyclical fluctuations. But he does not adequately explain why the relationship between departments I and II is such as to slow down or bring to an end the accumulation process once it has started.

#### 13.3.4 *Random shocks*

Together with these two arguments for crises (the falling rate of profit and 'underconsumption'), which we interpret as theories attempting to account for the cyclical nature of crises, there are numerous references in Marx to random shocks that send the system into crisis before the main and more powerful mechanisms fully work themselves out. Each market experiences fluctuations due to its own specific nature (*Capital* I:478). More concretely, crises can result from large changes in the composition of demand (*TSV* III:122), or from a shortage of particular commodities and the attendant price fluctuations (*TSV* II:516). The problem here is not in accepting these matters as relevant to crises, but rather the opposite. 'Shocks' are endemic in a decentralised capitalist system. Why is it that sometimes they produce crises, but at other times there is a smoother adjustment? Marx really provides no answer to this question.

#### 13.3.5 *The downturn, lower turning-point, secular tendency and control of cycles*

In examining the downturn of economic activity after a crisis has begun Marx reveals himself at his best, as we indicated in section 13.2. A decline in the rate of profit generates a demand to hold capital in its money form, that is, to *hoard* money, and a consequent failure to recirculate it. This in turn creates other price-profit changes, and thus further disruption in other industries (*Capital* II:106; *TSV* II:522-3). The demand for money increases as the decline in profitability renders the capitalist incapable of meeting fixed obligations (*TSV* II:516). The credit system is then undermined, and its contraction leads to a further fall in aggregate demand (*Capital* III:254). Even commodities which were not initially overproduced may now face a sharp fall in demand (*TSV* II:253). These changes have international ramifications through foreign trade relations (*Capital* II:472-3, 321; III:491, 547, 575; *TSV* II:500, 534). In asserting that production for the world market becomes increasingly important with the development of capitalism, Marx suggests that the international transmission of the trade cycle becomes stronger over time.

Crises form an important method of disequilibrium adjustment (*Capital* III:248-9), since *a priori* knowledge of equilibrium proportions is impossible in the unplanned and anarchic conditions of capitalism. Price-profit changes bring about an *ex post* co-ordination, but this mechanism generates crises rather than a smooth transfer of resources between sectors (*Capital* II:319). Thus crises reflect the absence of conscious social control over economic relations (*ibid.*:176, 473), and manifest in the clearest fashion the alienated social relations of capitalist commodity producers (*Capital* III:257).

The major defect in Marx's analysis of the downturn is the lack of a precise theory which would allow the determination of the point at which the level of economic activity ceases to fall. He does, however, deal with the lower turning-point, at which the economy begins the upturn to the boom. There seem to be three main factors causing this revival. As we would expect in view of the previous sections, all work by directly or indirectly bringing about an increase in profitability.

First and most important is the physical destruction of capital through depreciation. Marx maintains that large portions of the investments which were bunched together at the peak of the cycle come up for renewal almost simultaneously, because of similarities in the period of amortisation. The bunching of replacement demands increases effective demands and raises profitability. Marx believed that the durability of the fixed capital in the most important industries was about ten years, and used this to explain the definite periodicity of the cycle (*Capital* II:188–9, 318–20, 454; *TSV* II:495). As in his analysis of the upper turning-point – though much more clearly here – Marx was on the right track, in that variations in investment are the key to the trade cycle.

These *echo effects*, however, are unlikely to provide a general explanation of the causes of recovery and periodicity, since they depend on a uniform life-span of a significant proportion of fixed capital, and this is unlikely to be the case unless the industrial sector of the economy is highly specialised. But since the British economy between 1820 and 1870 did experience an extremely regular ten-year cycle, and was very highly specialised, the dynamics of capital investment may well in this particular period have generated significant echo effects along the lines suggested by Marx.

Second, Marx also maintains that profitability is restored by the destruction of capital values which results from price declines in crises. The bankruptcy of weaker capitalists and their forced sale of assets on a depressed market allows the more strongly placed sections of the class to buy in anticipation of large capital gains when an upturn occurs. This transfer of wealth will thus tend to raise the rate of profit and aid recovery (*Capital* III:233–5; *TSV* II:495–7).

Marx argues, thirdly, that the stagnation of production which occurs in the slump will increase the reserve army of the unemployed and lead to reductions in real wages from the high point reached in the boom, when unemployment was at its lowest (*Capital* III:254–5). In Marx's theory, equilibrium wages and profits are inversely related, so that this would tend to increase profitability and encourage the re-expansion of production. However, this is not an equilibrium context. We saw in section 13.3.3 that a reduction in real wages is likely to reduce effective demand by diminishing workers' consumption; this will reduce the rate of profit, and not increase it. Despite strong doubts on the validity of this third point, however, Marx's other two arguments (and in particular the first) show that he pin-pointed important forces working for revival in the slump and accounting for a



definite periodicity in the cycle when random disturbances are unimportant.

Although Marx stated that 'permanent crises do not exist' (*TSV* II:497), there are certain hints in his work that he expected crises and depressions to get more severe as capitalism develops (*Grundrisse*:749–50). As we have seen in section 13.2, the general basis on which crises arise is for Marx the inadequacy of those mechanisms co-ordinating the production and circulation activities of independent but interdependent capitals. His frequent references to the increasing 'socialisation' of production which takes place with the development of capitalism can be taken to imply that maladjustments would increase in their intensity, resulting in a cycle of increasing amplitude. More concretely, he points out that the development of credit can intensify the disruptive potentialities of the systems, as his theory of the downturn would in fact suggest. Moreover, he states that crises become more severe as the working period lengthens and speculation increases (*Capital* II:Ch. XII; 441, 504; II:Pts III and V). These points are not, however, developed into any systematic theory, and it is probably wrong to give them too much weight.

As for the control of cyclical fluctuations, Marx maintains that they can be alleviated but not eradicated. Most modern economists (including Keynesians) would agree with him on this. They would certainly disagree with him, however, about the degree to which cyclical instability can be contained. Marx discussed this question in the context of the bank legislation of the 1840s, which he saw as intensifying the effects of crises. But for Marx monetary disturbances are symptoms rather than cause of crises, and he was adamant that more systematic economic control than is implied by tinkering with the banking system would be incompatible with the structure of capitalist production itself (*Capital* I:633; III:120, 490, 515, 547, 554–5, 560–2).

This raises an important problem inherent in Marx's theory of capitalism, with which he never really comes to terms. What prevents the capitalist class from agreeing to use the state's many instruments of economic control to bring about a significant reduction in the amplitude of the cycle? Marx maintains that this is not possible, but provides little justification for this view. His own models of reproduction, indeed, strongly suggest that it is feasible. Moreover, he provides no convincing argument to demonstrate why the capitalist class cannot initiate or concur in such policies. On the other hand, it is true that when stabilisation policies have actually been undertaken they have increased the economic power of the working class and consequently brought about their own reversal.

### 13.4 Capitalist economic breakdown

In his outline of the materialist conception of history quoted in section 1.2, Marx argued that capitalism would eventually cease to foster the development of the productive forces. This has been interpreted as a prophecy of capitalist economic breakdown, that is, the belief that there is some more or less well-defined limit beyond which capitalism cannot

continue to function economically in its classic form. For example, the German Marxist, Karl Kautsky wrote in 1892 that 'Irresistible economic forces lead with the certainty of doom to the shipwreck of capitalist production' (Kautsky 1892:117). A similar view of Marx's economics was expressed by Kolakowski almost a century later: 'Marx holds that capitalism is doomed from the purely economic point of view, independently of the class struggle, since the contradiction, inherent in its production system, between use value and exchange value is bound to cause ever-recurring crises' (Kolakowski 1978a:300). There is, however, no explicit statement to this effect in Marx's own work. He nowhere argues or asserts, as Rosa Luxemburg was later to do, that 'accumulation can go on no longer' (Luxemburg 1913:467). Nor is economic breakdown in this, or some other similar sense, a legitimate inference from Marx's discussion of capitalism's laws of motion.

As we have seen in section 13.3.5, Marx does suggest that cyclical crises will become increasingly severe. Nevertheless, the important point in this regard is that he always regards crises as *cyclical*, that is, as part of an oscillatory pattern of economic growth. He does not maintain that crises can permanently paralyse capitalist accumulation. They are instead the mechanism by which that accumulation continues when realisation difficulties arise.

Marx clearly expected the reserve army of the unemployed to grow over time, both absolutely and relatively. But in no sense does this imply a breakdown in the process of capitalist accumulation. As Marx understands matters, the reserve army is essential to the reproduction of capitalist relationships in which surplus value is extracted from proletarianised producers, and an increase in its size can only aid in this process. The growing reserve army may have social and political effects, generating opposition to more intense exploitation; this is also true of realisation crises. But these are separate issues from a breakdown in the process of accumulation itself or in the general economic functioning of the capitalist mode of production.

The nearest Marx ever comes to a statement of a genuine breakdown theory is in his discussion of the falling rate of profit:

The rate of profit is the motive power of capitalist production. Things are produced only so long as they can be produced with a profit. Hence the concern of the English economists over the decline of the rate of profit. The fact that the bare possibility of this happening should worry Ricardo, shows his profound understanding of the conditions of capitalist production. It is that which is held against him, it is his unconcern about 'human beings,' and his having an eye solely for the development of the productive forces, whatever the cost in human beings and capital-values – it is precisely that which is the important thing about him. Development of the productive forces of social labour is the historical task and justification of capital. This is just the way in which it unconsciously creates the material requirements of a higher mode of production. What worries Ricardo is the fact that the rate of profit, the stimulating principle of capitalist production, the fundamental premise and driving force of accumulation, should be endangered by the development of production itself. And here the quantitative proportion means everything. There is, indeed, something deeper behind it, of which he is only vaguely aware. It comes to the surface here in a purely economic

way – i.e., from the bourgeois point of view, within the limitations of capitalist understanding, from the standpoint of capitalist production itself – that it has its barrier, that it is relative, that it is not an absolute, but only a historical mode of production corresponding to a definite limited epoch in the development of the material requirements of production (*Capital* III:259; see also section 6.3.1. above).

Whether or not Marx intended to develop a breakdown theory upon this basis is not clear. However, he does not explicitly do so. Nor does he provide what is necessary for such a theory. To show that the falling rate of profit will eventually generate a curtailment of accumulation, he would have had to show not only that the profit rate declines, but also that it declines sufficiently to preclude accumulation. This latter property is not implied by a decline *per se*. The rate of profit could continually decline, without ever reaching a level low enough to stifle further capitalist development.

We conclude that even if Marx did entertain an idea of economic breakdown he did not provide a theory to rationalise it. Furthermore, the evidence that Marx did think in such terms is slender. Of course, he maintained that the nature of capitalist economic development was the key to understanding the transcendence of the system. But this is because of the effect upon proletarian political action, which is a matter quite distinct from any economic breakdown.

### 13.5 Conclusion

We should emphasise that our account in this chapter and particularly the section relating to cycles is very much an interpretation rather than simply an exposition of Marx's work. This is partly explained by Marx's method. As we saw in section 4.9, he believed that economic analysis should consist of a hierarchical series of stages which successively lower the level of abstraction, moving from the most abstract and essential to the most concrete aspects of economic phenomena. Cycles, especially in the crisis phase, are considered to be one of the most concrete aspects of capitalist production. Thus in the plan of his work written in 1857 (*Grundrisse*:108) crises appear with the 'world market' as the final task of analysis. This reflects Marx's view that with the development of capitalism crises are increasingly world market phenomena. As such, they are exceedingly complex. In fact he goes so far as to state that the 'world market crisis' is 'the most complicated phenomenon of capitalist production' (*TSV* II:501). He would, therefore, have considered it methodologically inappropriate to give a complete analysis of the cycle within the confines of the three published volumes of *Capital*. There is, however, enough evidence to establish Marx's claim as an important theorist of effective demand and cyclical fluctuations. Furthermore, he retains here, as elsewhere, the methodological virtue which separates him from all other economic theorists, namely, his socio-historical approach.

But this is probably not a complete explanation of why Marx's work on crises and cycles is never integrated into a coherent whole. As we have seen, some of the analysis which he did provide is unsatisfactory. In particular the two main mechanisms of cycles – the declining rate of profit and underconsumption – are not really related to each other. The former rests on analysis the validity of which is highly suspect, and in both the mechanism of the upper turning-point is not clearly given. His treatment of crises and downturns is in better shape, but even here there are important omissions. There is a lack of precision in his discussion of the *specific* causes of crises, and in his account of why such crises are necessarily temporary rather than continuous.

Modern theory shows that the development of economics has not in fact made major progress over Marx, in the sense that it has not developed anything approaching a satisfactory theory which would explain the complexity of crises and cyclical growth. But Keynesian economics has provided a basis from which a far more rigorous and integrated analysis of effective demand failures can be developed. This does not contradict Marx's own work on these issues, but it does go beyond it and allow a more solidly based Marxian theory to be developed. Whether any of this can also provide the basis for eradicating instability, allowing capitalist economies to function at higher overall levels of activity, is another matter. Whatever the defects in Marx's theory of the reserve army, he correctly realised that unemployment acts as a device for disciplining the proletariat in line with the requirements of capitalist economies. If economic policies were to eradicate it, other mechanisms would have to be furnished. Such alternatives would be constrained by the specific form of capitalist economic relations, the competition of independent capitals in a system of markets. This sets limits to the extent to which state planning and direct intervention can be successful. One hundred years after Marx's death, no mechanisms of social control have proved even remotely as successful as unemployment.

### Reading guide

Marx's discussion of crises and cycles is largely contained in *TSV II:Ch. XVII*, *Capital II:Chs XX–XXI* and *Capital III:Chs XV and XXX*. Scattered references can also be found elsewhere, especially in the *Grundrisse*.

The meaning and significance of Say's Law is dealt with by Baumol (1977), Howard (1983:Ch. 17), Leijohufvud (1981:Ch. 5) and Sowell (1972). Shoul (1957) explicitly discusses Marx's attack on Say's Law and is useful despite being somewhat confused on the theoretical issues involved. A fundamental contribution to the understanding of Keynesian demand and supply concepts is the refinement of Keynes (1936) by Clower (1965). Various extensions of this are provided by Hahn (1977, 1980), Leijonhufvud (1968, 1981) and Malinvaud (1977, 1980).

Marx's analysis of cyclical growth has been reconstructed in many different ways, of which Alcala (1978), Bell (1977), Robinson (1942:Ch. 6), Roemer (1981:Ch. 9), Shaikh (1978a), Sherman (1979, 1982), Sowell (1967), Sweezy (1946:Pt. 3), Union for Radical Political Economics (1978), Weisskopf (1978), Wright (1977) and Yaffe (1973) provide a fairly representative sample. Tsuru (1976) emphasises Marx's own insistence upon the endogenous causes of fluctuations. Keynesian cycle theorists like Hansen (1964) and Matthews (1959) largely share this methodological precept.

Marx wrote extensively (but not always clearly) about money. The best introduction to his analysis is probably *Capital* I:Ch. 2, followed by *Capital* III:Pt. V. Commentary and criticism is provided by Harris (1976), Jacobi, Bergmann and Mueller-Jentsch (1975), Rowthorn (1980:129-80) and Visser (1977), whose exposition is particularly easy to follow. Pre-Marxian theories of underconsumption are discussed by Berg (1980:Ch. 12), Bleaney (1976:Chs 2-5) and King (1981,1983), while the question of Marx's own underconsumptionist tendencies is explored by Bleaney (1976:Ch. 6), Itoh (1978) and Schneider (1981).

There have been many attempts to apply Marx's conceptual framework to the global economic crises of the 1970s and 1980s. Glyn and Sutcliffe (1972) provided an early analysis of the 'profit squeeze', which was developed by Boddy and Crotty (1975) and Weisskopf (1979). Mandel (1975, 1978) advocates a somewhat eclectic Marxian view which has been widely criticised, amiably by Rowthorn (1976) and more savagely by Hussain (1980). Mandel's (1980) account of 'long waves' of capitalist growth also claims a Marxian pedigree. The classic statement of the socio-political limits to stabilisation policies is Kalecki (1943).

The question as to whether Marx had a 'breakdown' theory, and whether such a theory can be defended, arose in the revisionist controversy in the European Marxist movement at the turn of the century. The ensuing debates are discussed in general terms by Kolakowski (1978b:Ch. IV) and McLellan (1979:Ch. 2). Luxemburg's (1913) is the most explicit breakdown theory, although it is generally recognised to be defective; Brewer (1980:Ch. 3), Robinson (1951) and Rousseas (1979) assess her arguments. The economics of breakdown are also discussed by Hardach, Karras and Fine (1978:Ch. 3) and Sweezy (1946:Ch. 11).

# Imperialism

## 14.1 Introduction

So far we have followed Marx in assuming a closed capitalist economy, modelled on contemporary Western Europe in general and England in particular. This chapter deals with the geographical expansion of capitalism into a global system, which took place in two stages. From the late fifteenth to the mid-eighteenth centuries, extensive trading relations were established between Western Europe and the rest of the world. The enormous profits from these early colonial adventures in the era of merchant capital formed an important source of the primitive accumulation (above, section 1.4). This chapter is concerned primarily with the second wave of imperialist expansion which occurred after the advent of industrial capitalism, and which was already under way when Marx began his economic researches.

He never dealt systematically with this issue in his main theoretical work. The planned books on international trade, the world market and the state were never completed, nor, as far as is known, even set down in rough form, and we possess only hints as to what they might have contained. We are forced to rely mainly upon Marx's journalism, where his views are clearly expressed, though they still fall far short of a comprehensive analysis.

Certain pre-capitalist modes of production had shown a tendency to widen their geographical boundaries (*Grundrisse*: 182, 490), but capitalist expansion was unique in its scope and intensity. The acquisitive drive inherent in the system for the accumulation of wealth overcomes all inhibitions, giving rise to a quite unprecedented extension of egoism, rationality and a renunciation of traditional constraints upon economic activity. Marx cited the evil but lucrative British opium trade with China as an example:

While the semi-barbarian stood on the principle of morality, the civilized opposed to him the principle of self . . . the representative of the antiquated world appears prompted by ethical motives, while the representative of overwhelming modern society fights for the privilege of buying in the cheapest and selling in the dearest markets (*CM*:343–4).

As the Opium Wars clearly demonstrated, international relations transcended the mutually beneficial free trade which forms the sole topic addressed by the neoclassical theory of trade. Coercion, plunder, the use of armed force in the pursuit of profit: this is how capitalist expansion took place historically, as opposed to its representation in orthodox economic textbooks.

In section 14.2 we look at what Marx had to say about the effect of imperialism on the capitalist economies themselves, while section 14.3 deals with its impact on the pre-capitalist areas of the world. These two sections are entirely expository. In section 14.4 we discuss the consistency of Marx's ideas, and section 14.5 offers an overall assessment of his arguments.

### 14.2 The effect on the capitalist economies

Compared with later Marxist writers, Marx's own consideration of the effect of imperialism upon the metropolitan capitalist economies was cursory, probably because he did not regard it as a matter of any great importance. Interestingly enough, he believed that up to the 1860s the main British colony (India) was an overall burden on the imperial power, although particular sections of the British capitalist class and sections of other property owners benefited substantially. Parts of the working class also gained indirectly, through the higher wages which were financed from the spoils of empire. But on a strict financial calculation for all groups together Marx maintained that, despite the intense exploitation of India, benefits were less than costs. The latter were largely met through taxation which, given Marx's theory of wages, must ultimately have fallen on non-wage incomes. Hence the net financial benefits to the property-owning classes as a whole from the colonisation of India must have been negative in his view. It was because particular sections of these classes (especially merchants and financial capitalists) possessed predominant political power, and their interests favoured imperialist penetration, that India was first colonised. Marx's argument concerned the period prior to the modernisation of India that he expected to occur when industrial capitalists became powerful enough to control colonial policy, and he may well have offered a different analysis of this later stage (although we are unaware of any explicit statement to this effect.)

He did, however, note the importance of colonial markets: 'The need of a constantly expanding market for its products chases the bourgeoisie over the whole surface of the globe. It must nestle everywhere, settle everywhere, establish connexions everywhere' (*SW* I:112). This was the nature of capitalism. More specifically, this expansion reflected the recurrent realisation problems which resulted from deficient consuming power in the home market. Colonisation could also reduce the reserve army of the unemployed, both directly through emigration and indirectly through the export of capital which financed balance of payments deficits in non-capitalist economies.

Foreign trade and the export of capital were seen as possible offsets to the falling rate of profit. Imports of raw materials and food cheapened both constant and variable capital. This reduced the organic composition of capital and increased the rate of exploitation, thereby raising the average rate of profit. The export of capital could also increase the profit rate if invested in areas where the organic composition was below, and the rate of profit above, their levels in the domestic economy. It would also reduce the rate of accumulation at home and slow down the inevitable increase in the organic composition.

In none of these cases, however, did Marx imply that the complications introduced were anything more than rather minor modifications to an analysis carried out on the assumption of a closed economy. The real significance of international trade, the export of capital and colonisation for the economic contradictions of capitalism is found, for Marx, in their tendency to intensify realisation crises. Penetration into foreign markets, for example, may lead to a large initial increase in demand which, for various reasons, cannot be sustained. In addition, the instability inherent in the anarchic nature of the world market is transmitted to all open economies, increasingly so as they become more dependent on international economic relations. It should also be noted that Marx pointed to the enhanced possibility of war between the advanced countries themselves as well as with potential colonies, but he paid very much less attention to this question than such later disciples as Lenin and Luxemburg. Imperialism, to conclude, was something of a side issue in Marx's analysis of capitalist economic development.

### 14.3 The impact on the colonies

Marx's main concern was with the impact of imperialism on the colonies. With the significant exception of Ireland (discussion of which is deferred to section 14.4), only India received his detailed attention. Nevertheless, since he viewed India as a paradigm for Asia as a whole, Marx believed that his analysis was more widely applicable. He largely ignored Africa and Latin America.

Crucial to Marx's appreciation of the significance of imperialism was his analysis of pre-colonial Indian society, which owed much to the writings of bourgeois theorists like James Mill. Marx did not regard Asia as feudal; still less did it approximate to the slave society of classical antiquity. Instead he identified a distinct *Asiatic mode of production*. This had only two significant component parts: at the bottom a multitude of small villages and at the top an authoritarian state, with no independent intermediate forms of social organisation. Marx argued that this form of society was unchanging, in the sense that there were no internal forces working to alter the mode of production. He believed the Indian villages to be virtually self-sufficient and largely self-governing, regulated internally by traditional institutions of caste. 'The simplicity of the organisation for production in these self-sufficing



communities ... supplies the key to the secret of the unchangeableness of Asiatic societies' (*Capital* I:358). And the essential attribute of this 'simplicity' of economic structure, in turn, was the union within each village of primitive agriculture and handicraft industries. In consequence the villages were almost entirely isolated, and in no way dependent on urban manufacturing centres. Commodity production was negligible, so that one of the fundamental prerequisites for autonomous capitalist development was lacking. Each village was inward-looking, static and stagnant.

Marx considered that the character of the oriental state was governed by the need for large-scale public works, especially for irrigation. To carry out this function, and to finance its unproductive activities, it largely absorbed through taxation the surplus production of the villages. Despotic rule was not necessarily stable. There was a 'constant dissolution and refounding of Asiatic states, and the never-ceasing changes of dynasty' (*Capital* I:358). But this was not *historical* change, for the 'structure of the economic elements of society remains untouched by the storm clouds in the political sky' (*ibid.*). There existed no autonomous feudal or capitalist class. Such quasi-aristocratic or quasi-bourgeois elements as did exist were completely reliant upon the state, for the lack of commodity production in the villages prevented any significant development of urban manufacturing. The towns were little more than military camps, whose traders and manufacturers were predominantly concerned with servicing state requirements. There was thus no real basis for the emergence of an independent bourgeoisie, as in Western Europe:

Indian society has no history at all, at least no known history. What we call its history, is but the history of the successive intruders who founded their empires on the passive basis of that unresisting and unchanging society (*CM*:132).

And this was to be explained by the unique character of the Asiatic mode of production.

It was on the basis of this view of Asiatic society that Marx assessed the historical significance of imperialism. Indian society was unchanging. There were no internal dialectical forces capable of generating historical progress. Capitalism, as a necessary basis for socialism, had thus to be created by external forces.

England has to fulfil a double mission in India: one destructive, the other regenerating – the annihilation of old Asiatic society, and the laying of the material foundations of Western society in Asia (*CM*:132–3).

Most important of all, English commerce exerted a revolutionary influence on the Indian village. The 'low prices of its goods served to destroy the spinning and weaving industries, which were an ancient integrating element of this unity of industrial and agricultural production' (*Capital* III:334). Thus the main barrier to historical change, the self-sufficiency of the village community, was undermined by the same process which had already

disposed of pre-capitalist commodity production in the West. Coupled with this was neglect by the imperialist power of the public works on which traditional agriculture relied, and in the absence of which it was ruined (CM:90).

Marx believed that the process of destruction largely preceded the modernising phase of development. Thus he wrote in 1853 that 'the historic pages of . . . [British] rule in India report hardly anything beyond destruction. The work of regeneration hardly transpires through a heap of ruins. Nevertheless it has begun' (CM:133). He went on to list the evidence for this development, noting the creation of political unity in India under a strong state which, as an instrument of its rule, established a modernised Indian army, ensuring that henceforth India would cease to be the 'predestined prey of conquest'. This was 'the *sine qua non* of Indian self-emancipation'. The introduction of a free press and Western education would build an Indian intelligentsia 'endowed with the requirements for government and imbued with European science'. The creation of private property rights in land – 'the great desideratum of Asiatic society' – would form the basis for capitalist development in agriculture (*ibid.*:132–3).

Most important of all, Marx expected capitalist industrialisation to take place:

Till [the middle of the nineteenth century] . . . the interests of the moneyocracy which had converted India into landed estates, of the oligarchy who had conquered it by their armies, and of the millocracy who had inundated it with their fabrics, had gone hand in hand. But the more the industrial interest became dependent on the Indian market, the more it felt the necessity of creating fresh productive powers in India, after having ruined her native industry. You cannot continue to inundate a country with your manufactures, unless you enable it to give you something in return (CM:107).

To this end the 'milocracy . . . intend now drawing a net of railways over India'. This would lead to the introduction of all 'those industrial processes necessary to meet the immediate and current wants of railway location, and out of which there must grow the application of machinery to those branches of industry not immediately connected with railways'. It is not clear whether Marx expected industrialisation to be carried through primarily by the English bourgeoisie, or whether he thought that Indian capitalists would take the initiative. In any case, these developments would further undermine village isolation and weaken its traditional organisation (*ibid.*:133–7).

There is no doubt that Marx supported the destruction of Asiatic society and the modernising effect of imperialism. The Asiatic mode of production was incapable of change, and thus unable to generate capitalism internally. Since capitalism was a necessary step towards human freedom, the external force of Western imperialism was to be endorsed for its progressive historical effects. The issue was not really the forcible conquest of India by the British:

India, . . . could not escape the fate of being conquered, and the whole of her past history, if it be anything, is the history of the successive conquests she has undergone. . . . The question, therefore, is not whether the English had a right to conquer India, but whether we are to prefer India conquered by the Turk, by the Persian, by the Russian, to India conquered by the Briton (CM:132).

Marx was in no doubt which he preferred, for previous conquerors were 'conquered themselves by the superior civilisation of their subjects'. The British, on the other hand, were 'the first conquerors superior, and therefore, inaccessible to the Hindoo civilisation' (CM:133). They destroyed traditional Indian society, and in doing so caused 'the only *social* revolution ever heard of in Asia' (*ibid.*:93). This is, of course, perfectly in accord with Marx's general conception of how historical progress occurs (see section 2.5).

Marx had few regrets about the passing of Asiatic society, for there was little, if anything, worth preserving:

we must not forget that these idyllic village communities, inoffensive though they may appear, had always been the solid foundation of Oriental despotism. . . . We must not forget that these little communities were contaminated by distinctions of caste and by slavery, that they subjugated man to external circumstances instead of elevating man to be the sovereign of circumstances, that they transformed a self-developing social state into never changing natural destiny, and thus brought about a brutalizing worship of nature, exhibiting its degradation in the fact that man, the sovereign of nature, fell down on his knees in adoration of Hanuman, the monkey, and Sabbala, the cow (CM:94).

These are harsh words indeed. But it would be a mistake to assume that they were any softer for the British imperialists. Marx supported capitalist imperialism because of its historically progressive consequences. He condoned neither its methods, nor the interests of its practitioners nor the apologetics of its ideologists. He was not inhibited from repeatedly criticising the sheer brutality, greed and hypocrisy of the 'civilised' conquerors while at the same time seeing imperialism as essential in the development of universal freedom.

England, it is true, in causing a social revolution in Hindostan, was actuated only by the vilest interests, and was stupid in her manner of enforcing them. But that is not the question. The question is, can mankind fulfil its destiny without a fundamental revolution in the social state of Asia? If not, whatever may have been the crimes of England she was the unconscious tool of history in bringing about the revolution (CM:94).

Despite the brutality of imperialism, Marx saw no alternative course of development capable of bringing Asia into the modern world. He opposed traditionalist revolts and partial defensive modernisations, and his only doubts (especially in the case of China) concerned the possibility that imperialist penetration might not be strong enough to accomplish its historical mission.

#### 14.4 The consistency of Marx's analysis

We now ask whether Marx's ideas on imperialist expansion are internally consistent, and whether they accord with other aspects of his thought. The first problem concerns Marx's treatment of property relations in Asiatic society. In 1853 he inferred 'the basic form of all phenomena in the East . . . to be the *absence of private property* in land. This is the real key even to the Oriental heaven' (*CM*:451). This argument was repeated in (*Capital* III:791), where Marx stated that at most there was 'private possession', rather than full private ownership (see also *CM*:450). Now Marx not only failed to explain precisely how this alleged absence of private property provides the 'key' to analysis, and in particular how it relates to the self-sufficiency of the village in terms of the union of agriculture and industry; but he also wrote that 'property in land does seem to have existed' in some Indian villages (*CM*:457). This was reaffirmed in (*Capital* I:357), when he noted that there were various kinds of village community. Instead of concentrating on the diversity, Marx generally focused on the 'simplest form', in which land was owned and cultivated collectively. This might be accounted for by his apparent belief that communal ownership was the 'original form' of village organisation (*Capital* III:333). However, this implies that there *is* historical development in Asiatic society; and this, as we have seen, Marx simultaneously denied.

This leads to a second problem of internal consistency. Despite his recognition of the extraction of the surplus product by the state bureaucracy, and of the existence of private property, inequality and even slavery in some villages, Marx appears at no time to have conceived of Asiatic society as *class* society. This is probably explained by his view that the existence of classes and class conflict was a sufficient – if not a necessary – condition for historical change. In the absence of such change in Asiatic society he was forced to conclude that there were no genuine classes. This was reinforced by his analysis of social strata in the Asiatic mode of production. Marx's concept of class relates less to statistical aggregates than to groups which are to some degree united by a sense of common identity derived from shared interests based on a common economic position. But he admitted that such a common economic position may not lead to any class consciousness, and where it does not, the collectivity does not really form a class at all. This is the celebrated distinction, drawn most clearly in *The Eighteenth Brumaire of Louis Bonaparte*, between a class *in itself* and a class *for itself* (*SW* I:474–87). Given his views on the oriental bureaucracy, the absence of autonomous intermediate groups, the introspective nature of the villagers, and the traditionally ordered form of the villages, Marx's denial of a class structure is easy to understand. But it raises major problems for Marx's theory of class formation generally. If common economic position is not sufficient to generate class consciousness, what is sufficient? Were these conditions fully met in the case of the proletariat in Western Europe?

The third problem concerns Marx's treatment of England's oldest colony. Ireland had been ruined by continual wars of conquest: 750 years of imperialist penetration had produced (in Engels's words) 'an utterly impoverished nation' (SC:94), depopulated and demoralised. For a brief interlude, with the imposition of protective tariffs by the Irish parliament in the 1780s, industry had flourished. But the Act of Union in 1801 did away with protection and completely destroyed Irish industry. The country had reverted to 'an agricultural district of England', in order that 'she may fulfil her true destiny, that of an English sheep-walk and cattle pasture' (*Capital* I:702, 711). Marx supported Irish independence and self-government, not least because it would permit the reimposition of protective tariffs against England, as in Canada and Australia (SC:196–7). Marx's writings on Ireland foreshadow the modern theory according to which development is blocked by the unequal relationships of dominance and dependence between rich and poor countries, imposing upon the latter a subordinate (chiefly agricultural) role in the international division of labour. Modern dependency theorists call for the autonomous development of the Third World, independently of the world market, and oppose all imperialist and quasi-colonial relations. Neither the analysis nor the prescriptions fit comfortably with Marx's assessment of the colonisation of Asia, and he himself made no attempt to resolve the apparent contradiction.

Fourthly there is a problem, the existence of which Marx never explicitly admitted, concerning the generality of the materialist conception of history (see above, section 1.5). The central idea of this conception is that the stages of historical development are dialectically related. Each stage grows out of the internal contradictions of the preceding stage, and in a similar manner gives rise to new stages. But Asiatic society is not integrated into this scheme, for it has on Marx's own argument no internal dialectical forces of change. Marx did admit that his account of particular historical processes – for example, primitive accumulation – applied only to Western Europe (SC:312–13). It can, perhaps, be admitted that this qualification does not seriously undermine the materialist conception of history, for European primitive accumulation is only one specific form that can be taken within the general scheme. The point we make here, however, is much more fundamental, for it implies that the conceptual framework of the scheme itself is applicable only partially, in effect to Western Europe. Marx's theory of history, then, is fundamentally Eurocentric, whereas his philosophy is universalistic.

After the publication of *Capital* I in 1867 Marx's opinion concerning the prerequisites for socialism began to change. He became increasingly interested in forms of primitive communism, and this led him into a detailed study of social conditions in Russia (which he regarded as semi-Asiatic). The socialist potential of the village commune was a controversial issue in the Russian revolutionary movement. Marx's own views leaned towards those of the Narodniks, who argued that socialism could be created on the basis of the existing village communities and without their dissolution through

capitalist development. He wrote in 1877 that 'if Russia continues to pursue the path she has followed since 1861, she will lose the finest chance ever offered by history to a people and undergo all the fatal vicissitudes of the capitalist regime' (*CM*:468). In a famous letter to Vera Zasulich in 1881 he argued that the village community 'is the mainspring of Russia's social regeneration', but added that 'in order that it might function as such one would first have to eliminate the deleterious influences which assail it from every quarter and then to ensure the conditions normal for spontaneous development' (*SC*:340). And in 1882 he speculated that 'If the Russian Revolution becomes the signal for a proletarian revolution in the West, so that both complement each other, the present Russian common ownership of land may serve as the starting point for a communist development' (*SW* I:100-1).

As can be seen, Marx's judgement was conditional. In the first and third passages he maintained that progress towards communism was possible without passing through an intermediate capitalist stage, providing only that internal capitalist development in Russia could be eradicated. The fourth passage seems additionally to require a simultaneous proletarian revolution in the advanced capitalist countries. Despite the brevity of these remarks and their conditional nature, they do show Marx as now believing that capitalist development may not be the only path of historical progress, or the most beneficial. This was a reversal of the position that he had previously held. There is no obvious reason why Marx's remarks on Russia might not apply more widely. He may, therefore, have changed his views on Asiatic society and capitalist imperialism in general, although we have no evidence that he did. Evidently, then, Marx's writings on Russia are inconsistent with his theoretical analysis of, and unconditional support for, imperialism in general.

To summarise: Marx's views on Asiatic society and imperialism were neither internally consistent nor in accord with other aspects of his analysis. These problems are by no means confined to minor issues. On the contrary, they bring into question the generality of the materialist conception of history, including Marx's theory of class formation and class conflict.

#### 14.5 An assessment

Marx's views on the effects of imperialism on the advanced capitalist economies are difficult to evaluate, since he made no more than occasional isolated remarks on this problem. However, in terms of his own theory he did identify the areas in which capitalist expansion was important: in particular, a counteracting influence to the industrial reserve army and the falling rate of profit, and as a result of limited consuming power in the home market. We have already seen in Chapter 12 that his analysis of the reserve army and the falling rate of profit are open to serious question even within the framework of a closed capitalist economy. Detailed consideration of the

impact of capitalist expansion on these aspects of Marx's thought would thus be pointless.

His analysis of the limited consuming power of the home economy rests on firmer ground. It is not true, however, that capital exports have always provided an outlet for surplus capital. In fact the reverse is often the case. The return flow of property incomes from abroad has tended to exceed the net outflow of capital, both for Britain at the zenith of its imperial power before 1914, and for the US in its twentieth-century heyday. And capital flows to non-capitalist areas have in any case shown a secular tendency to decline in relative importance.

Other aspects of Marx's analysis were more successful. His remarks concerning the probability of clashes between imperialist powers were highly perceptive. The uneven development of capitalist nations saw the emergence of German and Japanese competition to the established colonial powers, leading to bitter economic struggles which twice culminated in world wars. Furthermore, as may be seen from Marx's balance sheet for India, his theory did not need to explain imperialist actions in terms of national or even general class interests. It was rather the distribution of power within the property-owning classes which he saw, quite rightly, as crucial. Again, Marx's brief references to the destabilising effect of the world market on effective demand was entirely correct. We now know that it would be very much easier to keep a closed capitalist economy on an even keel at a high level of aggregate demand than one open to the full force of international disturbances. All this was remarkably prescient although it does not constitute an integrated *theory* of imperialism.

Marx's analysis of Asiatic society and the impact of imperialism is open to serious objection on a number of grounds. His generalisation from India to Asia as a whole can be criticised: the successful industrialisation of Japan in isolation from imperialist penetration, for example, indicates that the nature of Asian societies differed considerably. (It should be remembered that Japan was largely an unknown quantity to the West during Marx's lifetime.) Even in relation to India itself, Marx's arguments face great problems. Modern historians of India tend to deny both the stagnant nature of pre-colonial society and the revolutionising influence of the British Raj. Certainly Marx drastically overestimated the effect of imperialism in industrialising India. This was not due simply to excessive optimism with regard to the modernising impact of the railways, but was symptomatic of a more deep-rooted error. In associating capitalist expansion with deficient aggregate consumption at home, Marx linked imperialism with a force that was in fact much less powerful than his theory of constant real wages suggested it to be. And in connecting it with the falling rate of profit he was joining it to a force that did not operate at all as he conceived it. Marx was thus prone to exaggerate the outward impetus of Western capitalism, and this failure was due (at least in part) to the excessively dramatic picture that he painted of the economic contradictions of capitalism itself. Certainly he was correct in arguing that capitalism requires an ever-expanding market. But

his theory of wages prevented him from seeing that it might be generated *internally* on a sufficient scale.

However, his argument was broadly correct in qualitative, if not quantitative, terms. He accurately predicted the direction of change which imperialism would cause, even if he exaggerated its magnitude. The industrialisation of the Third World has been very much slower than Marx anticipated, mainly because the export of capital has been much less pronounced than he expected (and also directed more between the advanced capitalist nations than to pre-capitalist regions).

Equally clearly, imperialism has created internal forces in those societies which now push towards modernisation, forces which were either absent or extremely weak prior to the impact of Western capitalism. In this sense it is Marx's discussion of India – and not Ireland – which has better stood the test of time.

The question remains as to what we can learn from Marx's analysis of imperialism today. The major lesson is methodological, and concerns the way in which orthodox theory conceives of capitalism itself. For all his errors, Marx's statement of the forces behind capitalist expansion shows real insight into the nature of the system. It is an insight that neoclassical economic theory ignores, since it views the acquisitiveness and rationality of the capitalist mode of production as finding expression overwhelmingly in acts of free exchange between individuals. Obviously imperialism and other forms of coercive economic action will not fit into such a scheme of thought, whether or not they involve the exercise of state power, for they do not involve free exchange and are rarely individualistic. Neoclassical theorists, who often pride themselves on the generality of their theory, are in fact bound by a very limited conceptual framework which focuses on a special case of rational economic action. Moreover it is a special case which lends itself very easily to apologetics. The assumption of individual free exchange, coupled with the other neoclassical postulates of exogenous preferences and perfect certainty, leads to the conclusion that all parties gain from their transactions. This is a travesty of the imperialist record.

The significance of this point is by no means confined to the question of international economic relationships. The coercive power of the state is never far from the surface of even the most 'liberal' capitalist regimes. This is most obvious with respect to the market for labour power:

As soon . . . as . . . adverse circumstances prevent the creation of an industrial reserve army and, with it, the absolute dependence of the working class upon the capitalist class, capital . . . rebels against the 'sacred' law of supply and demand, and tries to check its inconvenient action by forcible means and State interference (*Capital* I:640).

Marx would not have been at all surprised by statutory wage controls and anti-strike legislation. Such measures involve collective rather than individual rationality, and operate by allowing economic actors to transform (rather than passively accepting) the constraints that they face. On both counts they are not readily amenable to neoclassical analysis. While Marx's



substantive propositions are often open to severe criticism, he did provide a framework of great relevance for a modern analysis of imperialism and other forms of coercive economic action.

### Reading guide

The literature on imperialism is colossal. Only a minute sample is offered here, slanted very heavily towards Marx (rather than later pro- and anti-Marxist authors). The best selection of Marx's own writings is in *Karl Marx on Colonialism and Modernisation* (referred to here as *CM*) which concentrates on his analysis of India. This volume also contains a lucid (if one-sided) introduction by Avineri (1969).

Marx's views on the unique character of the capitalist mode of production were summarised in section 1.4. The coercive nature of imperialist expansion is vividly chronicled by Kiernan (1982), while Inglis (1976) is a very readable account of the Opium Wars.

The unprofitable nature of Indian colonisation is argued by Marx in *CM*:81–2, 122, 143, 234–9, 330–5, 336–74, 456–66; and in *PP*:101–2. His account of the relationship between imperialism and deficient domestic demand is found in *SW* I:114 and *CM*:106–7. Connections with the reserve army and the falling rate of profit are traced in *Capital* III:237–45, 256–9; in *CM*:68, and in *PP*:101–2. Marx's analysis of the increasing instability of the world market is well expressed in *CM*:67–75, and the prospect of imperialist wars is raised in *CM*:59–63, 238–9. Hirschmann (1976) offers a provocative explanation of Marx's relative neglect of some of these questions.

On the Asiatic mode of production, see especially *Grundrisse*:486; *CM*:81–95, 132–7, 393–9, 465; and *Capital* I:357–8. Marx's debt to James Mill and other classical theorists is documented by Sawyer (1974) and Turner (1974). His attacks on the colonisers are in *CM*:81–90, 224–7, 280–4, 299–305, 320–4. Luxemburg (1913: Chs 25–32) gives a brilliant extension of Marx's analysis. Good secondary sources on the Asiatic mode of production include Hobsbawm (1964a), Kiernan (1967), Lichtheim (1963), Roychowdhury (1974), Sawyer (1977), Shiozawa (1966), Stokes (1973) and Thorner (1966). More generally on Marx and the Third World, see Melotti (1977).

The best-known attack on Marx's concept of the Asiatic mode is by Wittfogel (1957); see also Turner (1979). Hazelkorn (1980, 1981) examines the relevance of Marx's views on Ireland, while discussion of the Narodnik controversies is provided by Hussain and Tribe (1981:Ch. 2), Kingston-Mann (1981) and Kitching (1982:Chs 2, 3 and 6). Amin (1976) states the dependency thesis, which is criticised by Smith (1980).

Three good critical surveys of Marxist theories of imperialism are those of Barratt Brown (1974), Brewer (1980) and Cohen (1974). The lack of net capital exports to the colonial areas is stressed by Barratt Brown (1974), Baran and Sweezy (1968:Ch. 7) and Emmanuel (1974). Recent

research on India is summarised by Stokes (1973, 1978), while a controversial work by Warren (1980) defends Marx's support for imperialism against the 'retardation' thesis which has dominated Marxist writing on the subject for the past half-century.

# Conclusion

We have now completed the critical review of those elements which comprise Marx's political economy. Here we pull some of the threads together and attempt an overall assessment of his work – its strengths, weaknesses and potential. We do so under four headings: economic thought, method, critique and agency.

## **Economic thought**

There are some matters which virtually all schools of theoretical economics have accepted as central problems. The determination of equilibrium prices, employment levels and income distribution, for example, have always been at the forefront of research. It is true that they have been tackled in markedly different conceptual frameworks and that this hinders comparisons. Nevertheless, translation of one schema into another is often feasible, so that it is possible to consider the development of economic thought *per se*.

By this standard Marx's work ranks highly. His dissection of classical political economy, his theories of profit, reproduction and crises, together with his models of cyclical growth all contain original and acute insights coupled with analytical vigour. There is also, as we have seen, much to criticise. But this is true of other intellectual giants, such as Smith, Ricardo, Walras and Keynes, whose work can be seriously questioned upon the same general grounds as that of Marx: imprecision of concepts and logical deficiency.

This standard of assessment, however, is one of historical rather than modern significance. It establishes Marx's political economy as important in the history of economic thought, but by no means implies that modern economists need do more than show due respect. The valid results which his analysis contains could be accepted and formulated more precisely without the need for any further reconsideration of his work. Indeed, this has been done, if not by neoclassicals, certainly by neo-Ricardians and

radical Keynesians. In order to show that Marx is relevant to current research, it is not sufficient to recognise that he was correct on some important matters of economic theory. It must also be demonstrated that his work contains elements which are valid but absent from modern economic theory, and this cannot be shown on the criteria of substantive economic thought. To establish the claim one is required to look elsewhere, and in particular at Marx's economic method.

## Method

Modern economists, irrespective of the schools to which they adhere, have techniques available to them which are far superior to those used by Marx. In their ability to deduce the implications of a formally specified axiom set, they are much more advanced than Marx. However, methodology is a wider subject than the techniques of logical inference, and it is in this area that Marx's political economy remains pertinent.

Marx is unique in attempting to build economic theory upon a thoroughgoing social conception of economic agents. This is of current interest because there are good reasons for believing that human sentiments and behaviour are socially determined, if not to the extent which Marx himself believed, most certainly to a very significant degree. Nevertheless, the forms of economic theory which are now in fashion do not recognise this.

More precisely, it is only those schools of economic analysis which have been directly influenced by Marx – the neo-Ricardians and radical Keynesians – that accept the importance of explicitly introducing a sociological dimension into economic theory. The neo-Ricardians have sought to provide a secure logical foundation for the surplus approach, in which the method of surplus extraction and distribution is considered to be the key to understanding any economic formation. Class relationships, therefore, take a central place in this endeavour. There has also been an attempt to integrate the surplus approach with a theory of effective demand, so that both the production and realisation problems connected with the surplus in capitalism are susceptible to analysis. Naturally, Marxism, including Marx's methodology, has provided an important source from which this work has progressed. Nevertheless, the influence of the whole approach in modern economics is minimal. Neoclassical theory is clearly still dominant and, indeed, during recent years has tended to become the more so, as many of its practitioners have sought to undermine orthodox Keynesianism. Furthermore, there is no doubt that although some neoclassicals may accept that a sociological dimension cannot be dismissed, their conceptual framework does not provide a place for it. It is, therefore, towards neoclassical theory that we direct our critical remarks.

Recognising the social nature of economic matters does not of itself necessarily condemn asocial and dehistoricised forms of analysis. An explicit and systematic attempt to incorporate social properties into economic theory has an uneven return. There are some problems which may be tackled

without the need to take into account the precise pattern of social relationships. Thus neoclassical economists have shown that the conditions sufficient to guarantee the existence of an equilibrium of demands and supplies can be sensibly stated in a way which makes them applicable to diverse economic forms involving market exchange, including simple commodity production, capitalism and market socialism. At this high level of abstraction, the specific social relations in which markets function are not of great importance. Many of the statements which Marx himself made suggest that he failed to recognise this sufficiently. As is the case with all innovators, he tended to make claims which subsequently turn out to be less justified than they initially appeared.

However, travelling along a path which pays such scant regard to the social dimension of human existence can also generate error and irrelevance. Modern neoclassical welfare economics is perhaps the most blatant example. This branch of theory seeks to evaluate the alternative economic states by the degree to which they conform to consumers' preferences. Logically speaking, this makes sense because it is assumed that preferences are exogenous variables (and can be specified so as to incorporate only matters which pertain to consumption). But, by equally good logic, consumer preferences cease to form the rational bench-mark by which to judge alternative economic states when it is recognised that they are not independent of those states. And the historical record indicates that not only have preferences been highly variable but that they have been dependent variables, greatly affected by the structure of social relationships in which economic activity occurs. Nor could it be otherwise, for exactly those reasons which Marx expressed and which we discussed in section 2.2. To isolate economic agents from the 'social' is to separate them from the means by which they could rationally choose among those alternatives which they believe to constitute the domain of choice. Consequently, analytical results pertaining to economic welfare which are derived from the assumption of the autonomy of consumer's preferences relate to circumstances which lie outside the possibilities of human experience and are, therefore, irrelevant to it.

Non-evaluative problems, of 'positive' economic theory, also occur. While egoistic motivations, 'free choice' and market institutions have been widespread historically, it is only in a very limited number of social contexts that they have been associated with rapid technical advance and the methodical accumulation of productive potential. Since the consequences of this have been, and remain, momentous, it is a topic worthy of the attention of economists. But modern neoclassical economic theorists do not have a structure in terms of which they can provide explanations. Their own paradigm forms no such basis because the nature of agents' preferences, the constraints upon choices and the distribution of resources are assumed to be exogenous. So, if these economists do enquire into such problems, they must do so without the aid of the medium in which they were trained.

The importance of recognising that economic agents' existence is a

social one is not confined to analysing 'large questions' such as that just referred to. It also applies to the treatment of more mundane matters. Neoclassical theory, for example, has always emphasised the importance of excess supply as a force tending to reduce the relative prices of those commodities for which demand is deficient. The rationale for this is derived from a theory of markets constructed upon the behaviour of atomised asocial agents. However, empirically, excess supply has an uneven influence, being important in its effects on some prices and insignificant with respect to the prices of other commodities. Even in non-unionised labour markets, wage rates are much less affected by unemployment than are the prices of raw materials by overproduction in extractive industries. Moreover, the differences seem to be associated with the structure of relationships in which the production and marketing of the commodities in question take place. So far as many types of labour power in advanced capitalism are concerned, wage-cutting is constrained by the adverse effects upon profitability, which textbooks on personnel management euphemistically refer to as a deterioration in 'motivation', 'co-operation' and 'teamwork'. And it is the absence of such effects of price reductions in many other commodities which accounts for their greater sensitivity to market conditions.

As these examples suggest, the absence of an explicitly formulated social dimension is the Achilles heel of orthodox economics. No amount of elegance in its presentation or sophistication in its logical procedures can overcome this defect. To explain and evaluate the outcomes of human sentiments and behaviour by isolating economic agents from the environments which act as determinants and provide the meanings which they assign to their lives is simply crass. It operates to render many propositions irrelevant to the conditions in which people live, and when they are applied this irrelevance is transformed into error.

It is more difficult to assess the extent to which the particular socio-logically grounded economics which Marx sought to construct could be used to recast economic theory. Criticism of modern economics in terms of the patent limitations which it builds into its theory is a logically separate issue from support for Marx's own specific approach. Furthermore, we have seen that some of the devices Marx utilised to embody social relationships in the foundations of economics – in particular the value categories – cannot bear the weight placed upon them. Nevertheless, it remains the case that Marx alone of economic theorists has sought to tackle the problems posed by recognising the importance of social determination for economics, and so his work does represent a rational point of entry in any extension.

Any such attempts to do so, whether through the analysis provided by Marx or otherwise, however, would meet opposition. They would incorporate the basis for a critical perspective hostile to established centres of power. Irrespective of the precise relationship to Marx at the outset of the endeavour, there would be important forces working towards a convergence with the radical perspective of Marxism. This can be seen by re-examining Marx's critique of liberalism, which derives from his theory of freedom.

### Critique

Marx's conception of freedom rests upon his social view of mankind. Essentially he maintains that there are social conditions in which human reason can become supreme. Individuals can never escape a social determination, but it is possible for them collectively to fashion their relationships so as consciously to transform themselves into what they wish to be, and thus lead fully satisfying lives.

The notion of freedom implicit in this perspective does not require allegiance to the extreme social determinism sometimes accepted by Marx. It requires only a recognition that the social is an independent and significant determinant of human action and ideas. This alone is sufficient to render liberalism an arbitrary and limited doctrine and make rational the transcendence Marx attempted:

If man draws all his knowledge, sensation, etc., from the world of the senses and the experience gained in it, the empirical world must be arranged so that in it man experiences and gets used to what is really human and that he becomes aware of himself as man. If correctly understood interest is the principle of all morals, man's private interest must be made to coincide with the interest of humanity. If man is unfree in the materialist sense, i.e. is free not through the negative power to avoid this or that, but through the positive power to assert his true individuality, crime must not be punished in the individual, but the anti-social source of crime must be destroyed, and each man must be given social scope for the vital manifestation of his being. If man is shaped by his surroundings, his surroundings must be made human. If man is social by nature, he will develop his true nature only in society, and the power of his nature must be measured not by the power of separate individuals but by the power of society (*Selected Writings*:154).

By confining freedom to the sphere of individual choice, liberalism focuses upon an attribute which is neither the beginning nor end, or the whole, of those sequences of cause and effect which constitute a way of life. Instead it concentrates upon intermediate variables without regard to that which influences them, or the consequences which they in turn influence. Such a myopic perspective rests upon the principle of autonomous individuality, and when a broader view exposes this foundation as non-existent, liberalism loses its principal intellectual claim to support.

However, the Marxian alternative is not without its own problems. It points to the meaning of liberation only in the most general of terms. It designates neither the precise social forms which will engender it, nor the means by which they may be realised. Indeed, it implies that complete knowledge of what it means to be free cannot be attained in conditions other than those which ensure freedom. Moreover, the limited understanding which is possible in present circumstances does not translate into a well-specified programme of political action. Any attempt to bring about change must do so through the materials provided in existing social formations, but these have their own 'laws of motion' which may be out of accord with the ideal of attaining freedom. This suggests the need for a critical examination of Marx's theory of agency and his conception of communism.

## Agency

Marx believed that the practical problem of realising freedom would be resolved by the proletariat which, although an integral part of capitalism, would be propelled to bring about change which would ensure freedom. Why is this the case? Is it because workers are exploited? Is it because they are poor? Or is it because they recognise their condition as inhuman? It is misleading to answer any of these questions in the negative if this implies that Marx did not consider exploitation, poverty and dehumanisation as radicalising influences upon the proletariat. But negative answers really are the correct ones. According to Marx's analysis, the fact that a group is exploited is not a condition sufficient to mould it into a revolutionary force. The serfs in feudal society were an exploited, but rarely a revolutionary, group. Within capitalism many non-revolutionary groups are poor (for example, the *lumpenproletariat* and elements of the *petite bourgeoisie*), while the perception of dehumanisation is initially strongest in the radical intelligentsia, which is assigned only a secondary role in the drama of socialist revolution.

Marx casts the proletariat in the role of leading revolutionary agent because he believes that the workers will form a class, conscious of a common interest, organised to prosecute that interest, and recognising that this interest lies in communism. But he is not committed to any specific mechanism or condition as the cause of proletarian class formation, nor does he need to be so committed. His resolution of the problem of dehumanisation under capitalism only requires that he show that some such force is operative in forming the proletariat into the agency of socialist revolution.

The phenomena which he designated as most important varied with time. Initially, in his writings of 1843–44, Marx located the key in dehumanisation and argued for proletarian revolution as much from philosophical and logical necessity as from sociological potential. Dehumanisation is multidimensional and whatever agency is to realise freedom must abolish it in all its forms. Only the proletariat experiences universal suffering, and a proletarian revolution against the existing condition is the only feasible road to a fully human society (*Selected Writings*:72–3).

Marx's argument at this early stage fails to specify an exact mechanism by which the dehumanised conditions of the proletariat would ferment revolution, and he was never to be completely clear on this question. Nevertheless, in his subsequent work he paid increasing attention to the sociology of revolution, and provided many propositions as to the forces favouring and retarding class formation (see, for example, *PP*:172–4; *SW* I:478–9; *SW* II:424; *Capital* III:601, 885–6). Perhaps the nearest he comes to designating a predominating factor in this process is in *Capital* I, where the twin forces of capital centralisation and the reserve army of the unemployed are given primacy. Certainly the most explicit description of proletarian radicalisation appears in volume I of *Capital* in the context of the class polarisation engendered by these economic forces (see especially Chs XXV and XXXII).



We have already considered the reasons which make it difficult for us to agree. Marx's analysis of the dynamics of capitalism is often weak, and historically, too, it has failed. Full employment has proved the exception rather than the rule, but there has been no evidence in the last century of the continually increasing level of unemployment that Marx anticipated. Furthermore, advanced capitalist economies have not only generated high living standards for large segments of workers, but have also integrated and legitimised the economic and political organisations developed by the working class to realise its interests. Trade unions have been legalised, working-class parties have formed governments and there has developed a complex network of bureaucratised procedures regulating conflict. Furthermore, continued technological change threatens the onset, in John Quail's striking phrase, of a 'miniaturisation of the proletariat' which could make redundant the very concept of the working class. It follows that we cannot share Marx's confidence that the proletariat will practically resolve the problem of attaining freedom.

This in turn may be indicative of a deeper problem. Inherent in Marx's perception of history is a belief that inhuman conditions cannot endure. He implicitly suggests, at least in his discussion of non-Asiatic societies, that alienated social conditions are necessarily contradictory and, therefore, contain forces working to resolve the problem of dehumanisation. This process is not transparent. As we have noted several times, progress for Marx comes through negative forces and is generally misunderstood by contemporary participants, but progress does occur and his analysis sought to reveal it. The deficiencies in this analysis force upon us the conclusion that there is less determinism in capitalist development than Marx believed. This accords more with the view that history is a series of events devoid of the philosophic significance that he attributed to it.

The absence of any such 'necessity' does not, of course, make impossible those developments which Marx thought to be inevitable. Neither post-Marxian social theory nor economic theory have developed anything approaching a comprehensive analysis of class and capitalist development which conclusively precludes them. But historical alternatives are evidently wider than those entertained by Marx. Indeed, coupled with the experience of twentieth-century history, the errors in Marx's analysis suggest that even successful revolutionary activity is by no means assured of enhancing freedom. Social revolutions have been confined to backward regions where the peasantry and still more the radical intellectuals have taken the lead, not the proletariat. The regimes produced by such revolutions are authoritarian and bureaucratic, and have suppressed rather than encouraged the development of human freedom. Even when the proletariat has taken a decisive role, as in the Russian revolutions of 1917, the result has been to unleash forces which produce new and more terrible forms of domination than those abolished. In a final irony, working-class rebellion has been more dramatic in such self-proclaimed 'workers' states' as Hungary and Poland

than in the strongholds of Western capitalism. Has all this resulted solely because of contingent historical circumstances, or does the cause lie at a deeper level – in the *Utopian* nature of Marx's attempt to overcome the limitations of liberalism?

Certainly, there are very stringent requirements which Marx lays down for a genuinely communist society. It is not sufficient that exploitation should cease, or that inequalities in power and wealth should be minimal. It is not enough that markets should be replaced by the conscious planning of resource allocation. The division of labour itself must be abolished if alienation is to be erased. Human consciousness must not only be greatly expanded, but must become overtly sociological and devoid of all provincialism. Not surprisingly this communist project has frequently been derided as Utopian, in the pejorative sense of being hopelessly unrealistic and impossible to achieve.

It is true that the grounds for doing so have often involved nothing more substantial than 'common-sense' appeals to bourgeois prejudices. But, as we noted in section 2.5, there are more powerful arguments seeking to counter Marxian ideals. They rest upon the claim that the biological and psychic nature of humankind sets limits to the flexibility of social organisation so as to exclude communism as a practical possibility. Or it is maintained that the functional imperatives which any form of social organisation must fulfil directly preclude the possibility of communism as Marx envisaged it.

The assessment of such arguments is a more complex and difficult task than that of critically evaluating a piece of technical economics. Doubts as to the reliability of one's conclusions are likely to be more evident, as they necessarily rest in part upon matters which are inherently speculative. Here we make no pretence of undertaking the task even in preliminary form or, indeed, of claiming that it is possible wholly to vindicate Marx against the charge of Utopianism. But we do make the lesser claim, that there are strong reasons for believing that Marx's critique of liberalism and of capitalism is a rational one and also a powerful one. Liberal philosophy misrepresents, and capitalist society inhibits, those qualities which reasoned analysis indicates are central to the achievement of a more civilised life.

The modern relevance of Marx's political economy cannot easily be summarised. This is due both to the nature of the theory he sought to construct and the ignorance about the human condition in which we are still engulfed. Marxism is not a monolith but a hierarchical series of themes and propositions, some of which many retain their validity even if others are shown to be redundant. Since it is the more abstract and fundamental of these attributes – the social nature of mankind, the notion of freedom which this implies, and the analysis of alienation – which are the most robust, the claim to continuing relevance is a strong one. But the concrete implications are less clear, either for the construction of economic theory or for political

action. Marx proved himself to be much more capable of defining the problem of liberation than of either analysing the development of modern capitalism or of bringing about conscious social change.

### Reading guide

A comprehensive bibliography on the issues raised here would fill a large volume. Many of the references already provided in the reading guides to Part I will be found useful. In addition, Marx's many and scattered statements on class are brought together and synthesised by Bendix and Lipset (1967b), Dahrendorf (1959, Pt. one) and Miliband (1977). Giddens (1973) provides an exposition and critical commentary on post-Marxian developments in the theory of class. Bendix and Lipset (1967a) and Giddens and Held (1982) each provide a useful selection of readings on this topic.

There exist many works criticising neoclassical economics, and they are highly variable in quality. Dobb (1969), Hunt and Schwartz (1972), Robinson (1971) and Schwartz (1977) are relatively good. Neo-Ricardian economics and radical Keynesianism are discussed in Howard (1983), Pasi-netti (1974), Robinson and Eatwell (1973) and Walsh and Gram (1980).

Bookchin (1971) and Nove (1983) urge opposite views on the possibility of communism, while Kolakowski and Hampshire (1973) provide a broader perspective as to the relevance of socialist ideals. The history of various working classes, their political organisations and modern conditions is discussed in Goldthorpe *et al.* (1968), Lichtheim (1964), Mathews (1972), McLellan (1979: Chs 23–24) and Westergaard and Restler (1975). Gorz (1982) is a provocative tract on the disappearance of the working class.

Cliff (1974), Harris (1968), Mandel (1969), Marcuse (1958), Sweezy (1980, 1981) and Trotsky (1936) attempt Marxian interpretations of Stalinism. Deutscher (1971), Lane (1971, 1976), Parkin (1971) and Tucker (1977) are also useful sources on this question.

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